

# ALL ABOUT HISTORY

**The lost Tudor queen**

What if Lady Jane Grey had kept the throne?

## REVENGE OF THE SAMURAI

From child hostage to Japan's supreme shogun

THE  
**WOMEN WHO WON**  
THE  
**SPACE RACE**

THE RISE OF EVIL

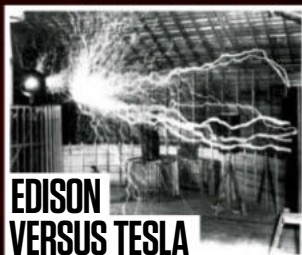
# HITLER

How the demagogue used riots, racism & repression in his quest to restore German "greatness"



**LONDON'S REAL LIBERTINE**

The Earl of Rochester's life of wit, wine & women



**EDISON VERSUS TESLA**

Inside the feud that changed the world



**PROTESTS IN PARIS**

How a student strike spiralled out of control

**PLUS:** THE SILK ROAD ROMAN MEDICAL SCHOOL COSMETICS THROUGH THE AGES BATTLE OF COLENSO FLYING HOSPITALS

## Secrets of the Mary Rose

Delve into the mysteries of Henry VIII's warship

Future

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Discover the story of Japan's most powerful shogun on page 42

# Welcome

We know all too well how the story ended, but how did Germany go from Weimar to Führer? On page 30, we explore the maelstrom of events that led to Hitler's rise to power, and look at what led *TIME* magazine to declare him Person Of The Year in 1938, the man or woman who "had the greatest influence, for better or worse, on the events of the year."

Two men who certainly made a positive impact on the world were Thomas Edison and Nikola Tesla. These brilliant scientific minds nonetheless warred over who would power the world's future, sparking one of history's most infamous feuds - find out more on page 58.

Of course, there are many forgotten heroes throughout history, whose contributions have been overlooked. Take, for example, the women of NASA who helped put man into orbit. In a period of shameful segregation, this story is perhaps all the more compelling. On page 68, discover how these brilliant women changed the world.



**Jodie Tyley**  
Editor

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**The Earl of Rochester**  
Depraved and desired, London's Restoration rogue led an extraordinary life. Discover why he was kicked out of King Charles II's court on more than one occasion.

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**Edison versus Tesla**  
Find out what happened when two geniuses collided in the War of the Currents: the feud that sent sparks flying and changed the world forever.

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**Ancient cosmetics**  
Did you know that everyone in Ancient Egypt wore eyeliner? It wasn't just for aesthetics, either. We reveal the unusual origins of beauty products and trends.

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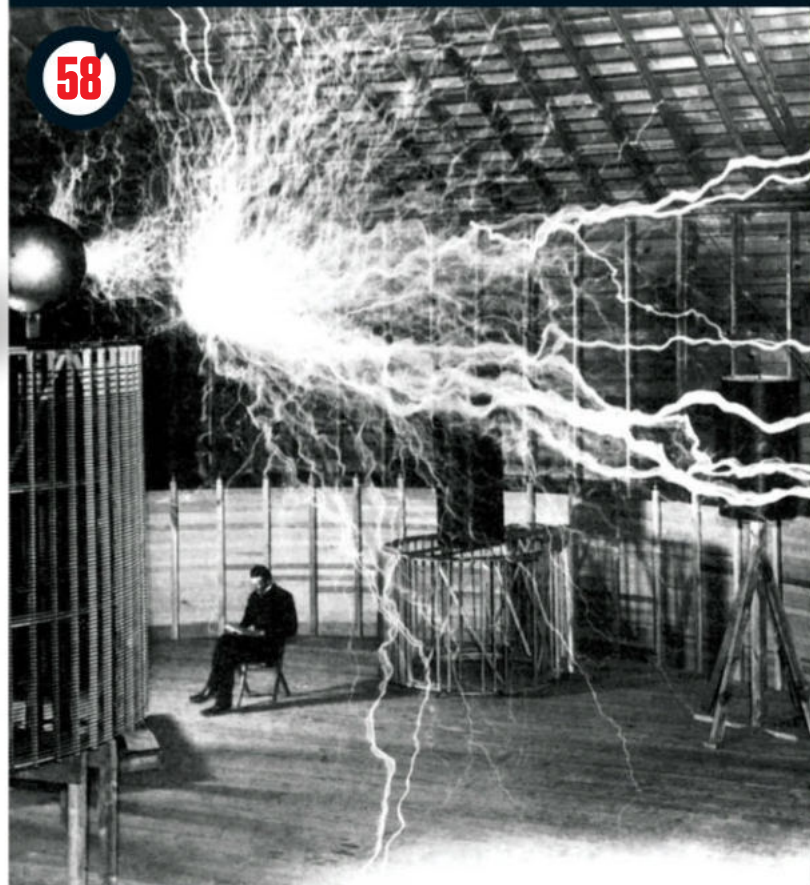
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Discover what might have happened had Lady Jane Grey kept the throne



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## HISTORY IN PICTURES

### FREE NELSON MANDELA

A band of demonstrators gather outside the Johannesburg City Hall, where Nelson Mandela appeared on a charge of enticement. He had eluded capture for 15 months, but a tip-off from a CIA agent reportedly led to his arrest. Mandela, aged 44, had been at the top of the South African police's most wanted list for protesting apartheid and resisting white minority rule.

His wife was in the crowd outside.

1962



A woman in a red cap and plaid shirt is working on a large, complex aircraft engine. The engine is silver and black with many hoses and wires. The background shows the curved, ribbed structure of an aircraft fuselage.

## HISTORY IN COLOUR

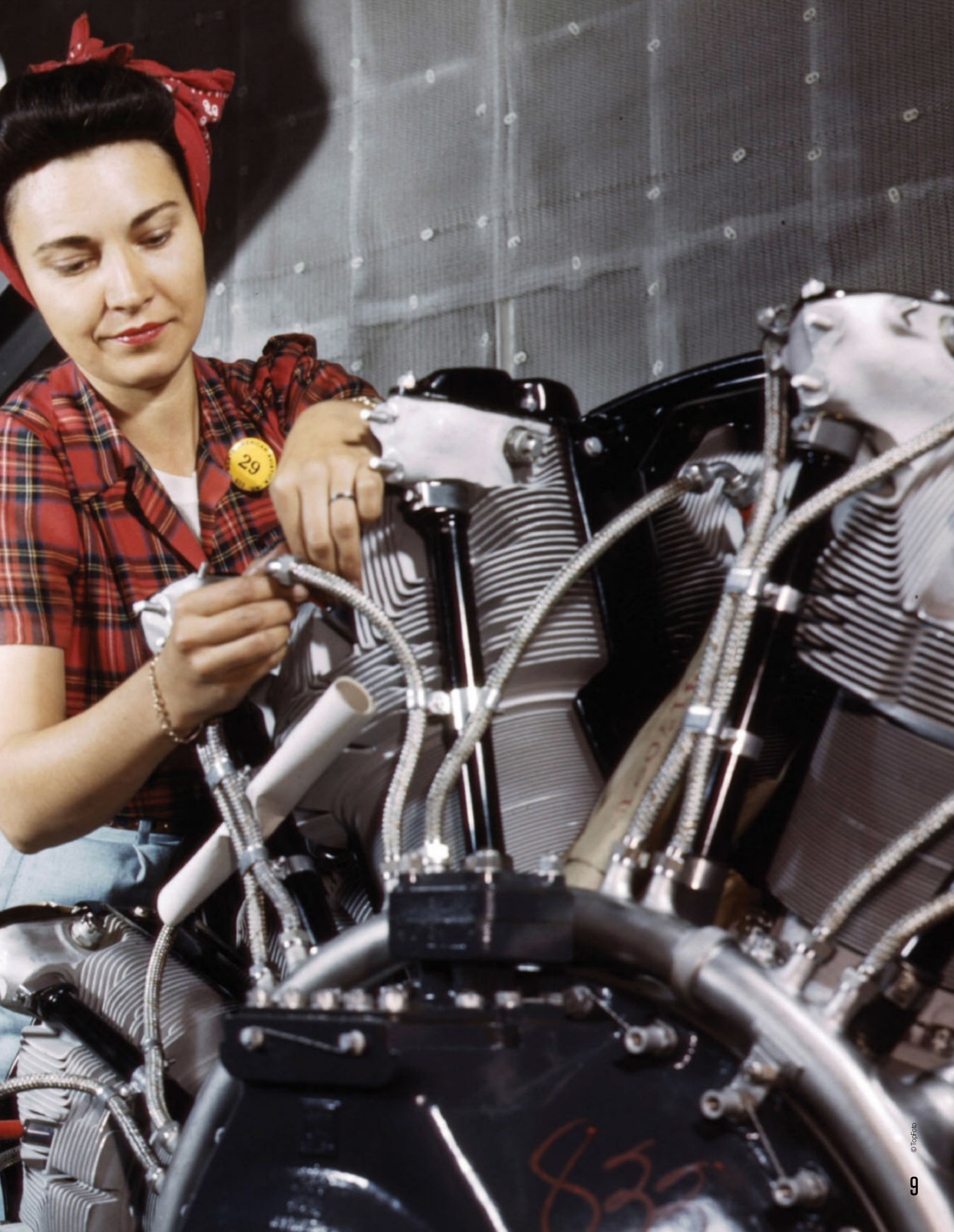
### THE REAL 'ROSIE RIVETER'

As men were called away to fight in WWII, women filled the factories and shipyards. They became engineers, electricians, and built weapons and vehicles. The woman pictured here, working on an aircraft motor at the North American Aviation plant in California, could easily be mistaken for Rosie the Riveter.

The star of the government campaign represented the American women who served their country.

1942













## HISTORY IN PICTURES

### IN THE LIVE LOUNGE

Ethnographer Frances Densmore worked to preserve American Indian music. She is shown here with Mountain Chief of the Blackfoot tribe during a phonograph recording session. During her career, Densmore collected thousands of recordings in a bid to preserve Native American culture at a time when the US government was encouraging indigenous people to adopt Western customs.

1916





## HISTORY IN COLOUR

### OH! YOU PRETTY THING

Backstage at Lewisham Odeon, London, David Bowie prepares for a Ziggy Stardust concert on 24 May. The tour began in February 1972 and travelled all around the UK, North America and Japan. Bowie told *Music Scene* that he bought his make-up from a shop in Rome that imported shockingly bright colours from India. Here, guitarist Mick Ronson can also be seen reflected behind him.

1973







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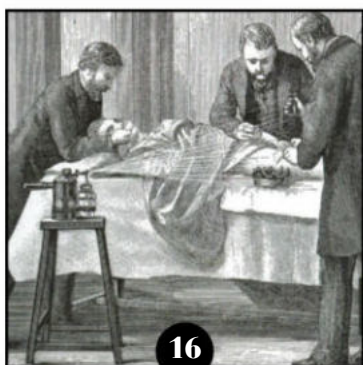




ALL ABOUT

# BATTLEFIELD MEDICINE

War often serves as a catalyst for change, especially when it comes to medicine.  
Discover the tried and tested techniques from the front line





# Battlefield medicine across history

With the progression of weaponry comes the advancement of medicine that helps save life and limb

## ROMAN MILITARY MEDICINE

Roman legions are sent to war with specialist military physicians. Field hospitals are constructed, with surgeons able to complete numerous procedures, and physicians carry herbs to make poultices and treat wounds.



## BATTLE AT CASTLE VILLAINE

French military surgeon Ambroise Paré revolutionises amputation.



Instead of cauterising with hot oil, he ties arteries with ligatures and uses tinctures of turpentine, rose oil and egg yolk to seal wounds.

## FRENCH REVOLUTIONARY WARS

French military medic Dominique Jean Larrey implements the 'triage' process - the critically wounded are seen first without regard to rank or distinction, followed by those who are less in need of medical help.



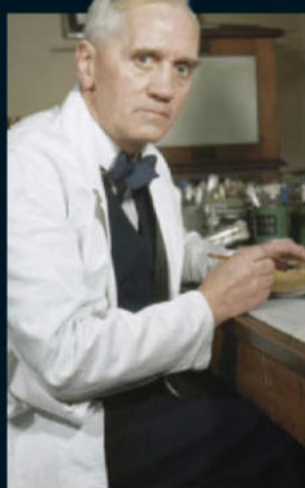
1ST CENTURY

1536

1797

## SPANISH CIVIL WAR

Vaccinations have been in development since the 1700s, but now soldiers are routinely vaccinated against diseases such as tetanus, typhoid and tuberculosis, further reducing the chances of disease spreading through ranks.



## DISCOVERY OF PENICILLIN

Scottish biologist and pharmacologist Alexander Fleming develops the first true antibiotic - this is the drug that will revolutionise the treatment of wounds received in battle and greatly diminish the amount of deaths caused by disease following injury.

## WORLD WAR I

The British Army uses blood transfusions to treat wounded soldiers. US Army medics stockpile and properly store blood; the first blood bank is set up on the Western Front in 1917.



1936-39

1928

1914-18

## WORLD WAR II

The demand for penicillin sees developers create a strain

**20 TIMES MORE POTENT**

Thanks to immunisation, of the

**17,000 MEN** wounded at Dunkirk, NOT ONE gets tetanus

Motorised, mobile surgical units mean that many casualties can be seen within

**12 HOURS**

## KOREAN WAR

Supported by helicopter evacuations, US Mobile Army Surgical Hospital (MASH) units bring skilled surgeons closer to the front lines. A casualty at a MASH unit has a 97 per cent chance of survival.



## COMBAT SUPPORT HOSPITALS

Replacing the MASH units, US Army Combat Support Hospitals (CSHs) and Forward Surgical Teams (FSTs) are swiftly set up, better equipped, more durable and have links to fixed medical facilities.



1939-45

1950-53

C.1991



## THE EARLY AMBULANCES

Napoleon is recommended to set up the first army nurses - a group of

# 125 MEN

They are organised into

# 10 BATTALIONS

run by the 'centenier'.

Ambulances are stretchers, or carts, pulled by

# 2 OR 4 HORSES



## SIEGE OF SEVASTOPOL

Russian surgeon Nikolay Ivanovich Pirogov is the first to bring ether as surgical anaesthesia to a battlefield during the Siege of Sevastopol. Later he also pioneers the use of plaster casts to set bones.

## AMERICAN CIVIL WAR

Jonathan Letterman helps to win the war for the Union by implementing an efficient medical supply-distribution strategy and setting up a tiered system of field hospitals to clear battlefields of casualties in just 24 hours.



Of the 620,000 soldiers killed, two-thirds died from disease and not a result of enemy fire

1809

1854-55

1861-65

## FRANCO-PRUSSIAN WAR

Total German deaths:

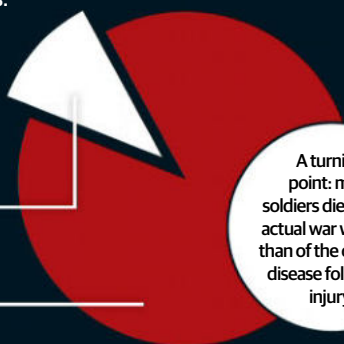
# 131,730

Deaths from disease:

# 14,904

Deaths from war wounds:

# 116,826



The German side uses Lister's aseptic techniques in their field hospitals

A turning point: more soldiers die of their actual war wounds than of the onset of disease following injury

## THE SIEGE OF PARIS

The first air-ambulance is created as military medical evacuations by air take place by hot air balloon. About 160 trauma-victim soldiers are moved from the battlefield to military hospitals.



## ASEPTIC TECHNIQUE

British surgeon Joseph Lister publishes his work on aseptic technique - using carbolic acid to sterilise wounds and instruments. He also devises a field dressing for use in war zones to keep wounds sterile.



1871

1870-71

1867

## WAR IN AFGHANISTAN

Medics can get a helicopter from Camp Bastion to a casualty in under

# 19 MINUTES

and back to the UK in 24 HOURS

# 87.9%

of all injuries from this conflict are caused by explosions

Medical care improves so much that

# 265 TROOPS

survive injuries that would have been fatal at the beginning of the war.

## MEDEVAC HELICOPTERS

Building on previous models, UH-60 Blackhawk helicopters are configured with state-of-the art medical technology, providing fast and efficient evacuation and allowing doctors to begin treating patients from the moment they arrive.



## PHYSIOLOGICAL MONITORING

The future of battlefield medicine is a wearable device to monitor troops' vital signs, relaying data to nerve centres

Robotics is a key field for development to protect life, prevent injury and streamline surgical procedure

before, after and during injury to help medics tailor the care that patients need.

2001-14

2008

2016



## Day in the life

# A MASH DOCTOR

## SAVING SOLDIERS' LIVES ON THE FRONT LINE, KOREA, 1950-53

During World War II, soldiers who had been wounded in battle had to be evacuated to fixed field hospitals to receive treatment, but these were often so far away from the front lines that the patient would die en route. By the outbreak of the Korean War in 1950, the need for mobile medical aid was evident, and so the US Army established the first mobile army surgical hospital (MASH). These units could be set up close to the front line relatively quickly and move with it, ensuring soldiers urgently received the medical care they needed to greatly increase their chances of survival. MASH units continued to be used throughout several conflicts, including the Vietnam War, until being decommissioned in 2006.

### SET UP

After travelling through the night over tough mountain terrain in hostile territory, trucks loaded with tents, medical supplies and medical personnel would offload their cargo in a suitable setting between six and 16 kilometres from the front line. Here the tents were pitched, and up to 200 hospital beds were set up inside. The entire process took no more than four hours.

### RECEIVE PATIENTS

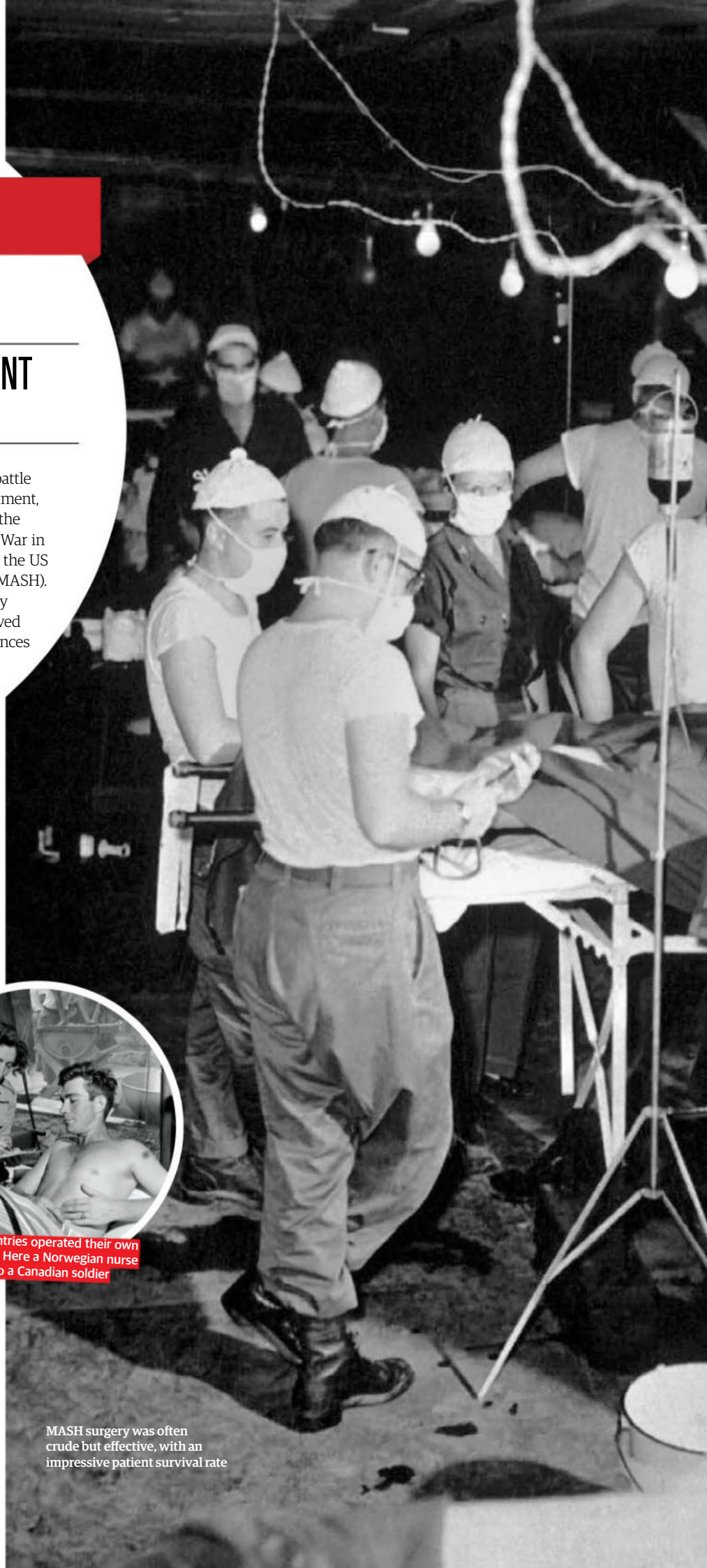
Wounded soldiers were initially taken to battle aid stations, small medical units with limited capabilities located on the front line. At these stations they would receive basic emergency care from general medical officers, before either being returned to duty or evacuated by helicopter to the nearest MASH unit for further treatment. Some units received as many as 1,000 casualties a day.

### PRIORITISE TREATMENT

Doctors and nurses at the MASH would assess each new patient using the triage system, determining the priority of treatment based on the severity of their condition. The adopted principle was: "Life takes precedence over limb, function over anatomical defects." Due to the sheer number of patients, the seriously injured were sometimes left to die so that others could be saved.



Various countries operated their own MASH units. Here a Norwegian nurse tends to a Canadian soldier



MASH surgery was often crude but effective, with an impressive patient survival rate





## PRE-OP CARE

MASH units were equipped with laboratories and X-ray machines to help with patient diagnosis, but unfortunately they did not have heating or air conditioning. The extremes of temperature experienced near the front lines meant that the staff and patients had to deal with freezing and sweltering conditions, which often made operations difficult and hindered patient recovery times.



## SURGERY

Each MASH unit typically had five operating tables - often just stretchers balanced on trestle tables - and was staffed by ten doctors, ten nurses and a few dozen enlisted men. The doctors were usually drafted as residents or interns, and given only three days of formal army medical training before having to perform their first surgery. Most of their training was on the job.



## FREE TIME

Although some days were non-stop, with staff working 12-hour shifts to get through the backlog of patients, others were relatively quiet. During their downtime, the doctors and nurses could retreat to their living quarters to rest, read, socialise and even dance. Sometimes more senior doctors took this time to train others in new procedures and treatments.



## EVACUATION

95 per cent of the patients treated by MASH units left them alive. As soon as their condition was considered stable, they would either be returned to duty or evacuated to a permanent hospital for further treatment. Each MASH unit was assigned four helicopters for transporting patients to and from the tents, as well as delivering medical supplies and blood for transfusions.



## BUG OUT

As the front line shifted, so did the MASH units. When the order to 'bug out' came, the remaining patients were evacuated, the tents were taken down, the supplies were packed up and everything was loaded onto the trucks, all within six hours. Some hospitals moved once a week on average, while others were able to stay put for around a month at a time.

With both air and road mobility, MASH units could extract men from almost any situation





# THE Anatomy of

## A CRIMEAN WAR NURSE

CRIMEA, 1853-56

### MINIMAL PROTECTION

#### BEFORE HEALTH AND SAFETY

Little was known about sanitation and the spread of infection, and so wearing gloves or masks was thought to be unnecessary. Because of this, and the dirty conditions of the hospitals, more patients died from diseases such as typhus and cholera than from their war injuries.

### APRON

#### KEEPING IT CLEAN

Nurses were issued their uniforms by the government, but very few of the garments provided were practical. Aprons and rubber galoshes were considered enough to help keep the nurses' clothes clean, while the rest of the outfit simply provided modesty and warmth.

### FULL-LENGTH GOWN

#### IN THE HABIT

As nuns had typically been the ones to provide care to the sick, early nursing uniforms were modelled on a nun's habit. The dark, heavy gowns made of linen, cotton and wool covered as much of the body as possible, as they were thought to act as a shield from infection.

### CAP

#### NURSING WITH FRILLS

Women were expected to keep their heads covered at all times, but nurses' caps also served the purpose of keeping their hair out of their faces while they worked. The more senior the nurse, the longer and frillier her cap, helping others to identify her rank.

### LAMP

#### FOR THE LATE NIGHT ROUNDS

Although not common practice, famous Crimean War nurse Florence Nightingale would check on her patients after the medical officers had retired for the night. She would roam the dark hospital wards using a candle lantern to light her way, earning her the nickname 'the lady with the lamp'.

### NIGHTINGALE'S NURSES POST-WAR CHANGES TO THE NURSES' UNIFORM

After returning from the Crimean War, Florence Nightingale established the first professional training school for nurses, and one of her students helped her to design a more practical uniform. It consisted of a simple and light-coloured ankle-length dress, full-length apron and short, square-shaped cap.



### UNDER-CLOTHING

#### NURSE'S OWN

Beneath their government-issued uniform, nurses were expected to wear their own undergarments, including a smock, petticoat, stockings and corset stiffened with flat strips of steel or plastic. Although not very easy to move around in, this was considered the only acceptable mode of dress for a working woman.







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The classically styled watchface features Roman numerals and is based on pocket watches of the war era. A precision Quartz movement ensures accurate timekeeping and each one is accompanied by a Certificate of Authenticity and presentation case. This heirloom collector's issue is endorsed by the Lest We Forget Association.

Applications are now open and this offer is likely to attract considerable interest, not just from watch collectors, so please apply promptly.



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# A FLYING HOSPITAL

KOREAN WAR, KOREAN PENINSULA, 1950-53

Aeromedical evacuation saved thousands of lives during the Korean War. The doctrine was developed during World War II, reducing the time it took to get from the battlefield to care facilities from days to mere hours. US Army and Air Force procedures evolved rapidly from 1950 to 1953, particularly with the introduction of helicopters in large numbers and the modification of cargo and transport planes for medical purposes.

Major General Matthew Ridgway, commander of United Nations forces in Korea, praised medical airlift personnel involved in lifesaving efforts that stretched across thousands of kilometres to hospitals in Japan and eventually the United States. The wounded soldier in Korea had a significantly better chance of recovery, he said, "...in large measure because of his ready accessibility to major medical installations provided by rapid medical evacuation."

Typically, aeromedical evacuation during the Korean War involved rescue transport by modified helicopters or light aircraft, including the Bell H-13 Sioux and Stinson L-5 Sentinel, to mobile surgical hospitals or other facilities in the country. From there, Douglas C-47 Skytrain or C-54 Skymaster aircraft, specially modified to carry casualties, flew seriously wounded personnel to hospitals elsewhere in Korea or Japan. The modified C-54 and Boeing C-97 Stratofreighter further transported patients across the expanse of the Pacific Ocean to Travis Air Force Base, California.

A fleet of 30 converted C-54s, designated the C-54M, entered service in the spring of 1951 and, along with the modified C-97C, actually served as flying hospitals accommodating dozens of stretchers, nurses' stations, medical supplies, and even a galley to prepare food during long flights. By the end of the Korean War, US medical evacuation troop carrier squadrons had made 12,000 flights, transporting more than 280,000 patients. More than 41,000 wounded soldiers received in-flight medical care en route from Japan to the United States.

## Patient care

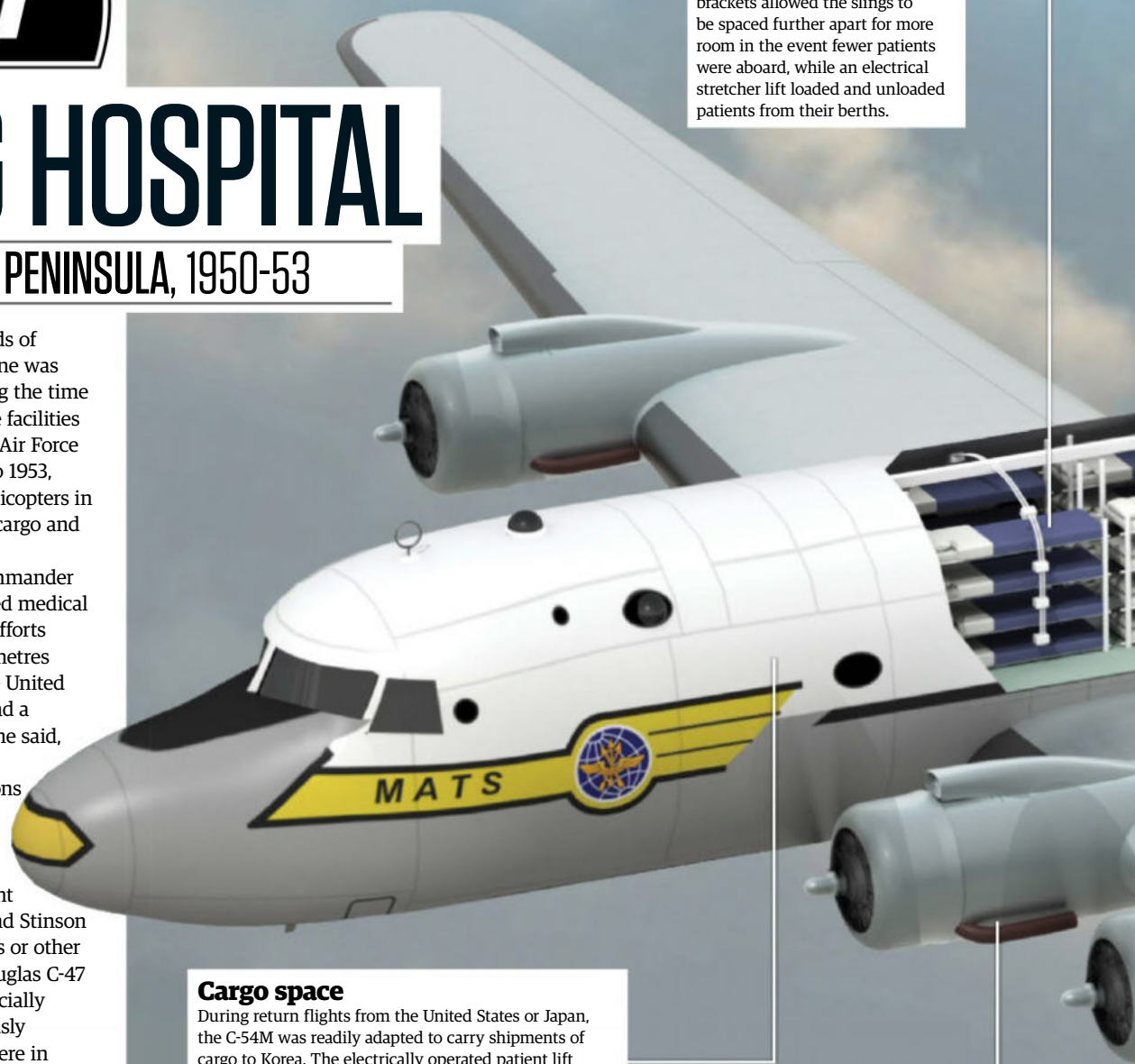
The C-54M flying hospital accommodated up to 32 patients in anti-vibration litter slings with 47 centimetres of clearance between each stretcher, providing a stable ride across many kilometres to medical facilities. Adjustable brackets allowed the slings to be spaced further apart for more room in the event fewer patients were aboard, while an electrical stretcher lift loaded and unloaded patients from their berths.

## Cargo space

During return flights from the United States or Japan, the C-54M was readily adapted to carry shipments of cargo to Korea. The electrically operated patient lift doubled as a cargo loading apparatus with a weight capacity of up to 225 kilograms. Prior to its use as a flying hospital, the C-54M was originally modified as a coal-carrying aircraft during the Berlin Airlift of 1948-49.

## Engines

The C-54M flying hospital was powered by four potent Pratt & Whitney R-2000-9 radial engines, each of which delivered 1,450 horsepower. In contrast to twin-engine aircraft, the C-54M and the C-97C were more reliable and comfortable as well as capable of completing the long-distance flights that returned casualties from Korea and Japan to medical facilities in the United States. The range of the C-54M was 6,400 kilometres, limiting necessary refuelling stops along the way.





### Galley

A galley was available for the preparation of hot meals for patients, medical personnel and aircrews during long flights across the Pacific Ocean. The efficiency of such on-board services not only made these flights more comfortable but also helped to shorten their duration. The configuration of the C-54M facilitated in-flight patient care on a level that exceeded expectations.

### Heat-proofing

The exterior of the C-54M flying hospital was painted primarily in a white colour scheme to reflect the rays of the Sun, while thick insulation of bulkheads and other surfaces along with specially treated glass also prevented the build-up of heat in the aircraft interior. During long flights, patient comfort was among the primary concerns of the medical personnel and aircrews aboard the flying hospitals.

### Nurses' station

A fully equipped nurses' station allowed medical personnel aboard the C-54M to provide the best care possible to the sick and wounded. The availability of supplies and medicines was critical to the well-being of the patients, particularly during the hours-long flights from Asia to the United States. Nurses were able to chart patients' conditions, dispense medications and perform other aspects of basic care while in flight.

### Air circulation

An air-conditioning system was installed aboard the C-54M with controls that could be manipulated by individual patients, providing the circulation of cool or warm air throughout the aircraft. The C-54M was the first aircraft to provide air conditioning that was controlled by the patients, and the system operated efficiently in the air and on the ground.

### Wide exit

Already adapted for the loading and unloading of substantial cargo, the exit from the C-54M flying hospital was ideal for the easy movement of patients into and out of the aircraft. At times patients were transported with oxygen and intravenous fluids that were problematic during ingress and egress. However, the wide exit and other design adaptations of the C-54M effectively managed the issue.

### Insect control

To prevent the transportation and introduction from Asia to the United States of insects or pests that might endanger native species or destroy crops, the C-54M was equipped with an ingenious insect control system. Operated by exterior controls and a pilot's button, the system sprayed insecticide from 15 nozzles positioned about the aircraft to thoroughly treat it against infestation.

### Oxygen supply

Critically wounded or sick patients often required oxygen, and the C-54M was equipped with a system that supplied it to individual litter sling positions aboard the aircraft. Without a centrally supplied oxygen system, medical personnel would have been required to operate heavy tanks aboard the plane, taking up valuable space, increasing the in-flight weight of the aircraft and presenting a substantial safety hazard.

Inside the "flying hospital ward," a Flight Nurse makes her rounds of the litter and ambulatory patients.



The C-131 Samaritan was an American twin-engine military transport produced from 1954



# How to BECOME A ROMAN DOCTOR

**A STRONG STOMACH AND A SKILLED HAND ARE REQUIRED  
TO TREAT THE LEGIONS** ROMAN EMPIRE, C.27 BCE – 476

Roman battlefield medicine was the best in the ancient world. Drawing inspiration from older Greek practices, the Romans introduced their own additions that saved many lives. In everyday Roman life, medicine was a rather private event, with some households retaining staff with medical knowledge. This was in contrast to military medicine, which was practiced publicly. The first emperor, Augustus, established the medical corps to deal with the ailments that might afflict a soldier in the field. These doctors, known as medici, brought cutting-edge expertise to soldiers around the empire, and many of their practices are still used in modern medicine.

## WHAT YOU'LL NEED...



### Experience

Under Emperor Augustus, Roman Medical Corps were created with specialist knowledge of treating wounds.

### Supplies

It's said that 'an army marches on its stomach', and Roman doctors knew the importance of a healthy diet for soldiers.

### Hygiene

Roman doctors used vinegar or boiling water to sterilise their tools, helping to keep wounds free from infection.

### Pharmacology

Knowing the medicinal properties of plants was essential. A field hospital would have had a dedicated garden for medicinal herbs.

### Instruments

A skilled hand was needed to use the bronze or silver tools like scalpels, forceps, tweezers, lances and needles.



## 01 Attend school

Starting with Greek texts, you will spend months studying the medical field before going on campaign. With proficiency in cutting, drilling and hacking, the job description might make you sound more like a carpenter than a doctor. When you have a high enough level of skill, you might be able to accept bribes for providing preferential treatment.



## 02 Pick the right spot

It may seem an unusual job for a doctor, but selecting the placement of the Roman military camp could mean defeat or victory. You must ensure that the latrines (toilets) are dug away from fresh water and make sure other camp conditions are sanitary to greatly reduce the risk of disease. The wounded travel with the army in the baggage train.



## How not to... do as the Romans did

While in many ways Roman medical knowledge was far ahead of its time, they would still borrow quack remedies from the Greeks, and create a few of their own. Some practices like blood-letting were common throughout history, and the Romans were known to use this now-abandoned technique.

The Roman medical writer Cornelius Celsus recorded and analysed traditional Greek remedies that would have a modern doctor slapping their forehead. Having a scented steam bath to revitalise the body or using snakes to get rid of troublesome abscesses

were just two of his outlandish findings. The strangest is perhaps the cannibalistic ritual of drinking the blood of a dead gladiator in an attempt to cure epilepsy.

Most Romans subscribed to the miasma-style theory that diseases were caused by bad air, as they did not have an understanding of germ theory. Before proper camp hygiene was accepted, illness was rife and could severely hinder a legions' ability to fight. Experience taught the Romans to adapt, although they may not have fully understood why the changes helped.



### 03 Ready the equipment

In preparation to receive the wounded, you will need to ready your supplies and tools. Plants like St Johns Wort will help to tackle inflammations. While it is not certain that the Romans had an in-depth knowledge of germs, experience taught them the merit of keeping medical instruments clean and sterilised, which helped to limit the risk of infection.

### 04 Form an orderly queue

When the battle has been fought, the wounded men will come flooding to your hospital tents. You need to decide which men to see first based on the seriousness of their wounds. Use wine and opiates as painkillers, but make sure not give the patient too much as they could faint. These remedies will often just dull the pain rather than get rid of it altogether.



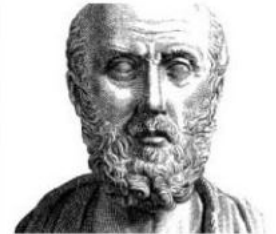
### 05 Save some lives

While some wounds, like punctures, can be tended to without much harm coming to the patient, others are risky. If you need to amputate, you must restrain the soldier - and try giving him a leather bit to bite down on - before you saw off a limb. Your knowledge of tourniquets and clean dressings should mean this operation won't be fatal.

### 06 Look after the troops

Wounds need to be checked and cleaned every three to five days to ensure they are healing. As a doctor, you should also look out for the physical health of the men by ensuring they exercise and eat a proper diet. Your knowledge of the kind of balanced diet the troops need on campaign will see supplies like corn, cheese, wine, fresh fruit and vegetables on the menu.

## 4 FAMOUS... ANCIENT DOCTORS



### HIPPOCRATES

C.460-C.370 BCE

The Ancient Greek understood the importance of battlefield experience: "He who desires to practice surgery must go to war."



### AULUS CORNELIUS CELSUS

C.25 BCE - C.50 CE

The author of an expansive medical manual, Celsus outlines many practices such as how to amputate and apply a tourniquet.



### ARCHAGATHUS OF SPARTA

3RD CENTURY BCE

Archagathus is credited with bringing Greek medical practices to Rome in 219 BCE. He specialised in healing battlefield wounds.



### PLINY THE ELDER

23-79 CE

Pliny did not trust doctors and criticised their high fees. He preferred traditional medicine.



*5 shocking facts about...*

# THE PSYCHOLOGICAL EFFECTS OF WAR

WORLDWIDE, 1300 BCE – PRESENT DAY

## AT A GLANCE

Post-traumatic stress disorder (PTSD) is an anxiety disorder caused by a very traumatic, frightening or distressing event, such as those experienced by soldiers in military combat. It is a common condition suffered by those who have witnessed the horrors of war throughout history, but only became officially recognised as a mental disorder in 1980.

### **01** The first recorded sufferers saw ghosts

Translations from Mesopotamia in 1300 BCE contain accounts of soldiers seeing the ghosts of the people they had killed in battle. Other early descriptions of PTSD include Greek historian Herodotus's 490 BCE account of a soldier going blind after witnessing a man be killed, despite not being physically injured himself.

### **02** It's been given more than 80 names

In 1761, Austrian physician Josef Leopold Auenbrugger noted that soldiers "become sad, taciturn, listless, solitary," and diagnosed them with 'nostalgia'. In WWI, the term used was 'shellshock', and during WWII it became known as 'combat exhaustion'. Other historic names include 'homesickness' and 'hysteria'.

### **03** Some thought it was a cardiac problem

While studying Civil War soldiers, US doctor Jacob Mendez Da Costa believed their rapid pulse, anxiety and trouble breathing was caused by overstimulation of the heart's nervous system. The condition became known as 'Da Costa's Syndrome' and sufferers were returned to battle after receiving drugs.

### **04** Treatment was varied

While those suffering from 'nostalgia' were prescribed cures such as "listening to music, regular exercise, and useful instruction," shell-shocked soldiers from WWI were recommended massage, rest, dietary regimens and electric shock treatment to treat "paralysis of the nerves", which was believed to be the cause of the condition.

### **05** Sufferers received little sympathy

Soldiers diagnosed with 'stress response syndrome' after the Vietnam War only received compensation from the US Department of Veterans Affairs if their condition had improved within six months. After that, it was believed that they must be suffering from a pre-existing condition and would therefore not be covered.



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The Casaf Boker, 1400/17. Unknown maker. Silver-gilt, sterling standard. Height 8.8 cm. © Victoria and Albert Museum, London. Silver reased, 2011. Kevin Grey, Britannia standard. Height 8.8 cm. Credit Line: Collection The Working of Goldsmiths





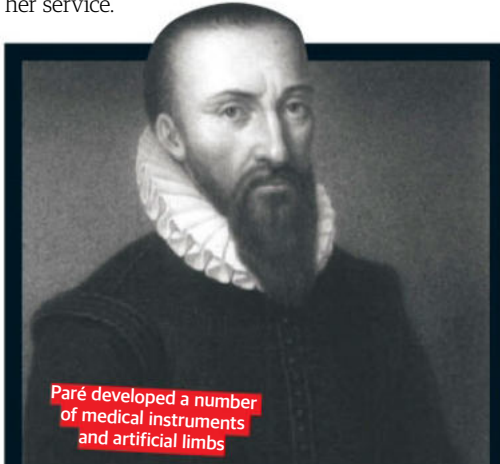
# Hall of Fame

## MILITARY MEDICS

The heroes of medicine who saved countless lives throughout history's bloody battles, and advanced the profession in unprecedented ways

### MARY SEACOLE JAMAICAN 1805-81

After being refused a place on Florence Nightingale's nursing team, Mary Seacole sailed to Crimea at her own expense, determined to help the war's wounded any way she could. She opened the British Hotel near Balaclava, providing hot food and a comfortable place to stay for sick and injured soldiers, and even risked her life travelling to the battlefield on horseback to nurse them there too. Her patients affectionately nicknamed her Mother Seacole, and when she returned from the war penniless, they helped to organise a benefit concert to raise money for her as a thank you for her service.



Paré developed a number of medical instruments and artificial limbs

### AMBROISE PARÉ FRENCH 1510-90

In his job as a military surgeon following the 1536 Battle of Milan, Ambroise Paré reinvented several treatments that revolutionised battlefield medicine. The first was discovered almost by accident, when the boiling oil normally used to cauterise open wounds had run out. Instead, Paré mixed up a concoction of egg yolk, turpentine and oil of roses, and was amazed to discover the wounds healing more effectively the next day. Cauterisation was also used to seal off amputated limbs, but Paré opted to tie off the blood vessels instead. Although often complicated by infection, the procedure was much less painful and heralded as a medical breakthrough.



Mary's autobiography, *Wonderful Adventures Of Mrs Seacole In Many Lands*, became a bestseller



George Washington ordered Letterman's system to be adopted by all US military forces

### JONATHAN LETTERMAN AMERICAN 1824-72

At the beginning of the Civil War, wounded soldiers were often left for days on the battlefield without medical attention. To solve the problem, US army

medical director Jonathan Letterman organised the first Ambulance Corps, a team of men trained to use stretchers and wagons to transport the wounded to field dressing stations. During the Battle of Antietam, all 23,000 wounded casualties were removed from the battlefield within 24 hours, no doubt saving countless lives.

Florence Nightingale was gifted with numbers, and became the first female member of the Royal Statistical Society in 1858

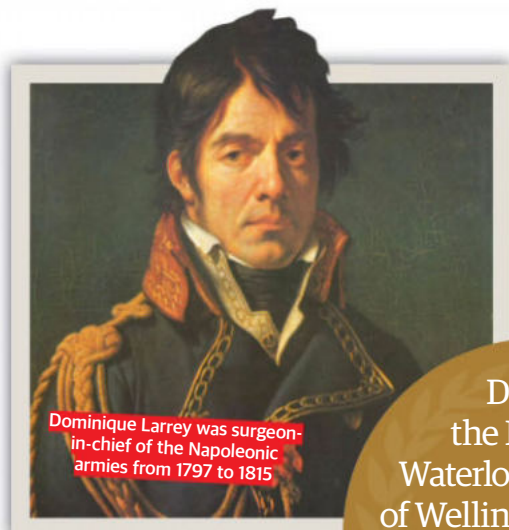
### FLORENCE NIGHTINGALE

BRITISH 1820-1910

Seeing rats crawling across the floor and patients eating mouldy bread, Florence Nightingale was appalled by the conditions she encountered at the army hospital in Scutari during the Crimean War. Leading a team of 38 nurses, she worked tirelessly to help clean up the wards and ensure the soldiers received a healthy diet, reducing the number of deaths from disease. After returning to Britain, she began campaigning for better hospital hygiene, setting up a nursing school in London and writing the book *Notes On Nursing* to pass on her knowledge and develop nursing into a profession.







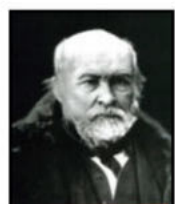
Dominique Larrey was surgeon-in-chief of the Napoleonic armies from 1797 to 1815

## DOMINIQUE JEAN LARREY

**FRENCH 1766-1842**

Watching horses speed across the battlefield dragging carts of ammunition to Napoleon's army, Larrey was struck with an idea. He needed a way to get wounded soldiers to field hospitals from the front line, and the horse-drawn carts were the perfect solution. Once the soldiers arrived at the hospital by the cartload, Larrey then needed a way to help doctors decide who to treat first. His triage system saw them prioritised by the seriousness of their injuries, rather than their rank or which side they were on.

During the Battle of Waterloo, the Duke of Wellington ordered troops to hold fire when Larrey and his medics were collecting the wounded



## NIKOLAY PIROGOV

**RUSSIAN 1810-81**

Wounded soldiers undergoing surgery during the Crimean War were usually only given rum, wine, opium or a musket ball to bite down on to help them deal with the excruciating pain. However, during the Siege of Sevastopol, operations became much less traumatic when Nikolay Pirogov introduced ether as an anaesthetic for the first time in field medicine. He also helped to improve triage techniques in battle, and pioneered the use of plaster casts to heal broken bones.

Pirogov tested his ether as an anaesthetic on himself before using it on patients

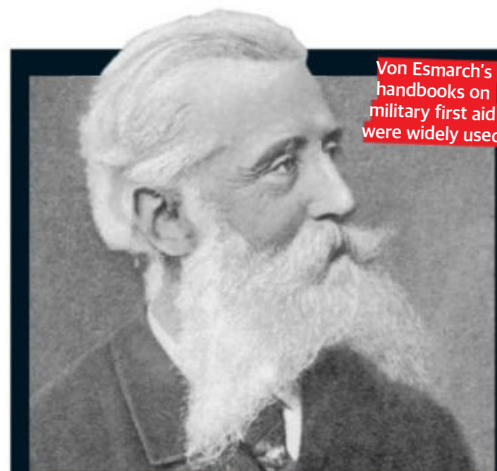
## MARY EDWARDS WALKER

**AMERICAN 1832-1919**

The only woman in her class, Mary Edwards Walker graduated from medical school in 1855, but when the Civil War broke out, she was denied a position as an army medical officer. She volunteered regardless, and worked her way up to the position of assistant surgeon. After the war, she was awarded the Medal of Honor, and is the only woman to have ever received it.



Mary Edwards Walker was a fierce campaigner for women's rights



Von Esmarch's handbooks on military first aid were widely used

## FRIEDRICH VON ESMARCH

**GERMAN 1823-1908**

Until 1873, operations on soldiers' limbs were bloody affairs, and often resulted in the patient bleeding to death. To solve the problem, military surgeon Friedrich von Esmarch came up with the 'bloodless technique of surgery', which involved wrapping a rubber bandage tightly around the limb to constrict blood flow. Once pale, the arm or leg could be operated on with no loss of blood. His invention became known as the Esmarch bandage, which is still in use today, and was followed by the creation of a military first aid kit, resulting in quicker, more effective medical treatment on the battlefield.



Doss braved enemy shelling to treat his fellow soldiers

## DESMOND DOSS

**AMERICAN 1919-2006**

Refusing to kill due to his religious beliefs, Desmond Doss enlisted as an army medic during WWII. While stationed in Okinawa, his unit was forced to retreat from a 120-metre escarpment by Japanese artillery, motor and machine-gun fire, but Doss stayed back to tend to his injured comrades. He then used ropes to lower them down the escarpment, saving 75 lives. He was the first conscientious objector to win the Medal of Honor.

"Let the generations know that women in uniform also guaranteed their freedom."

**Mary Edwards Walker**

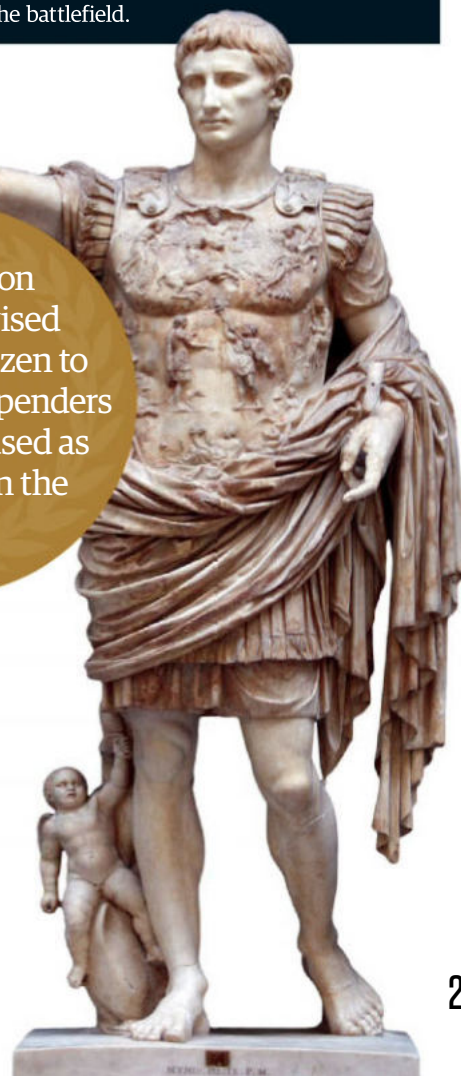
Roman surgeons used forceps, scalpels, tourniquets and catheters

Friedrich von Esmarch advised every male citizen to wear special suspenders that could be used as tourniquets in the field

## EMPEROR AUGUSTUS

**ITALIAN 63 BCE - 14 CE**

The first ever military medical school was set up by Roman Emperor Augustus to improve the health of his army. The techniques taught at the academy were surprisingly advanced, and the importance of cleanliness was understood. Surgical equipment was boiled before every use, and acetum (made from vinegar) was used as an antiseptic to treat wounds. However, much of this knowledge was lost following the decline of Rome, leading to the more primitive medicine of the Medieval period.











# THE RISE OF EVIL HITLER

How the demagogue used riots, racism & repression in his quest to restore German “greatness”

Written by Emily Turner-Graham and Michael Haskew

To hear Hitler tell the story in his 1924 autobiography *Mein Kampf* (My Struggle), the course of his entire life - right from birth - had led to his dictatorship of Germany from 1933-45. The forces of destiny had carefully planned it all - he was a man marked by fate to lead the nation of Germany. But, in truth, history is rarely as neat as that, and Hitler's extraordinary rise to rule the totalitarian Nazi state in the 1930s and then lead the German people to war and almost total destruction is far more complex.

Instead it is a story that grew from the human tragedy of World War I and the social, economic and political chaos of its aftermath, a nation drawn to extremes in its pursuit of a new beginning, and the capacity of a broken man and his circle of followers to sell a myth of national rebirth to an intelligent, cultured but equally war-scarred nation. The years from 1924, when Hitler was released from a short stint in prison, up to 1934 and the infamous bloodletting of the Night of the Long Knives mark the key period in Hitler's rise to power.

When he emerged from Landsberg Prison in the south-western Bavarian town of Landsberg am Lech on 20 December 1924, he had served only nine months of a five-year sentence for treason for his role in the Beer Hall Putsch (revolt) on 8-9 November 1923. It was an attempt by the fledgling Nazi Party (which had only formed in 1919) and a handful of fellow right-wing travellers to overthrow the hated Weimar government.

Hitler's court trial, presided over by a pro-Nazi judge, had served only to provide him with a far-reaching public platform from which to broadcast his views, especially since the trial was being eagerly reported in the national newspapers. He not only admitted his guilt in the Putsch but in fact relished in it. "I have resolved to be the destroyer of Marxism," he proclaimed confidently from the dock, appointing himself the 'strong man' who many on the right believed Germany needed in order to emerge from the chaos and misery of its wartime years. Post-Putsch, he no longer saw himself as the 'drummer', preparing the path for the coming leader. Instead, he was the Führer (leader) himself.





## The Rise Of Evil: Hitler

Hitler, along with Rudolf Hess (who would become Deputy Führer in 1933), passed his prison sentence quite comfortably. He was able to receive guests, and a number of his political colleagues who would later become prominent figures in the Third Reich – such as Ernst Röhm, Wilhelm Frick and Alfred Rosenberg – paid numerous visits. This allowed for a like-minded group to develop, for Hitler to continue to expound and hone his views, and for him to consolidate his role as party leader – all while behind prison walls.

On top of this, Hitler also used the time to put together his political manifesto. In fact, he described prison as his “university paid for by the State.” The book was called *Mein Kampf* and in it he detailed a set of ideas that, at their core, changed little over the course of his life and formed the essential nucleus of National Socialist (Nazi) ideology. In *Mein Kampf*, Hitler also reshaped his own history in order to reinforce the idea that destiny had called him to lead Germany.

He and many of his followers began to believe that he was on a, “...near-messianic [mission]... to become the ‘Great Leader’ the nation awaited, who would expunge the ‘criminal betrayal of 1918’, restore Germany’s might and power, and create a reborn ‘Germanic State of the German nation’.” His autobiography saw the beginning of ‘the Führer Myth’ that would last for some Germans until the bitter end of the Nazi period in 1945. One sympathetic writer said in 1924, “What lies dormant in the soul of the German people has taken shape in full living features... That has appeared in Adolf Hitler: the living incarnation of the nation’s yearning.”

Hitler sits beside his new appointed propaganda minister, Joseph Goebbels, at a rally in Stuttgart, 1933

“It seemed that Hitler had tapped into a number of common beliefs in *Mein Kampf* – he had just taken them to their extremes”



The opening of the new Reichstag symbolised unity between the Nazi Party and the old Prussian military elite



# THE WEIMAR REPUBLIC: DOOMED TO FAILURE

When the kaiser fled, a new democratic government was declared in the small town of Weimar

The Weimar Republic refers to the German state from 1919 to 1933. Many Germans on the right believed the Republic had allowed Germany to lose World War I by conceding defeat too soon. Many nationalists also espoused the 'stab in the back' theory, believing that Bolsheviks and Jews had weakened the home front with damaging modern ideas such as feminism. The 1919 Treaty of Versailles, which the Weimar government accepted, took territory from Germany, called for colossal reparations and laid the blame for igniting the war squarely at the feet

of the Central Powers – Germany, the Austro-Hungarian Empire, the Ottoman Empire and Bulgaria.

Added to this, in 1923 the French occupied the Ruhr in Germany, commandeering the district's rich raw materials. This was another mark against the Weimar government in the eyes of the right, along with the many black French colonial soldiers who were allowed as part of the Ruhr occupation force. During the same period, Germany suffered from devastating hyperinflation. A large number of Germans lost their social status and were reduced to poverty.

A solution came in the form of the Dawes Plan in 1924, but the German economy was left dependent on loans from the USA. This would have serious ramifications when the Great Depression struck in 1929.

Finally, there were inherent problems within Germany's system of government. Germany had only become a unified country in 1871 and since that time had been a monarchy. Germany was governed by coalitions with no overall majority. This resulted in a series of weak, unstable governments and a lack of public confidence in the political system.

## My struggle

*Mein Kampf* depicted a world characterised by constant struggle. All existence could be reduced to a battle between the strong and the weak. "Those that want to live, let them fight, and those who do not want to fight in this world of eternal struggle do not deserve to live." Hitler argued for Social Darwinism, an interpretation of Darwin's theory of evolution applied to humanity and best summed up as 'survival of the fittest'. The foremost means of defining the strong and the weak was through the lens of race. As Hitler said in *Mein Kampf*, "The racial question gives the key not only to world history but to all human culture." The Aryan was the greatest expression of humanity and the German ideal was characterised as being tall, well-built and healthy with blonde hair and blue eyes. The physical vitality of the Aryan was also expressed in their richly creative culture. For Hitler, Aryans were "the founders of culture". Their total opposite was the Jew. The Nazis depicted Jewry as a race not a religion that was unhealthy physically, mentally and spiritually.

Hitler argued that Jewry also lacked an original culture. While Aryans created culture, Jews invaded, imitated, corrupted and ultimately destroyed it. The Nazis argued this was what had recently happened in Germany. During World War I, while German men were away fighting, Jews undermined traditional German culture at home by introducing damaging modern ideas like Bolshevism and feminism. As a result, the home front collapsed and the war was lost. Here was the extreme right's infamous Dolchstoßlegende, or 'stab in the back' theory.

Jews, therefore, were the enemies of Germany and had to be eliminated from society. There

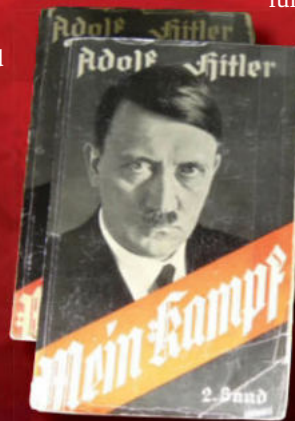
were varying suggestions as to what extent this 'elimination' should take place. So too, all German peoples throughout Europe needed to be united in a greater German state and in order to do this, more Lebensraum (living space) had to be acquired. As well as all this, the 'treachery' of the Treaty of Versailles needed to be redressed. Hitler's long-term goals were set.

There were conflicting views about *Mein Kampf* and Hitler's objectives. Economist Johannes Zahn said: "Reading *Mein Kampf* was exactly like belief in the demands of the *Bible*. These are demands but nobody believed they would be fulfilled one hundred per cent." Diplomat

Manfred von Schröder said that, "Nobody took it really seriously." Yet Johannes Zahn argued that Jewish influence "had gone too far" in Germany and Herbert Richter, who said that *Mein Kampf* was "too crazy" to even finish reading, also felt that the German territories lost in World War I should be returned. It seemed that Hitler had tapped into a number of common beliefs in *Mein Kampf* - he had just taken them to their extremes. The book sold poorly initially but by 1939 in Germany, it was selling second only

to the *Bible*, and by 1945, 10 million copies had been purchased.

The Beer Hall Putsch and Hitler's spell in prison also taught the Nazi Party that the only route to power was through the ballot box. Armed revolution was not the answer. Instead they would beat the system from within, by becoming a part of Germany's democratic system before gaining power and pulling democracy apart. As Hitler said, "If outvoting them takes longer than outshooting them, at least the results will be guaranteed by their own Constitution."





## Nazi Party

The birth of the National Socialist German Workers' Party

1918

**World War I ends**  
The end of the Great War gives rise to the 'stab in the back' theory that the German army was betrayed. An ultra-right element emerges on the German political scene.



German citizens riot in the port city of Kiel

1919

**German Workers' Party forms**  
Anton Drexler, along with other anti-Semitic and nationalist activists, is a prime mover in the formation of the forerunner of the Nazi Party in Munich on 5 January 1919.



1919

**Hitler joins German Workers' Party**  
Ordered by the army to infiltrate the German Workers' Party, Hitler instead joins the group as its 55th member, and begins his rapid rise to leadership.



Adolf Hitler's membership card

1920

**Becoming the Nazis**  
The name of the group is formally changed to the National Socialist German Workers' Party, abbreviated as Nazi, and its first public meeting is held.

1921

**Hitler on the rise**  
Using his gift for oratory, Hitler addresses a crowd of 6,000 people in Munich. Later this year, he's elected chairman of the Nazi Party.



1923

**Beer Hall Putsch**  
The first Nazi Party Day is held. Several Nazi cohorts are killed, and Hitler is arrested and imprisoned following the abortive Beer Hall Putsch in Munich.



1924

**A political platform**  
Hitler utilises his trial for treason as a platform to denounce the current political situation in Germany. He receives a five-year sentence in Landsberg Prison.

1924

**Mein Kampf**  
While in prison, Hitler receives regular visitors, enjoys remarkable freedom, and dictates his manifesto, *Mein Kampf*, to his secretary, Rudolf Hess.



Hitler's book *Mein Kampf* became a bestseller in Germany

## German National People's Party

The national conservative party gave Hitler a narrow voting majority

1918

**Conservative concentration**  
The German National People's Party (DNVP) – a conservative organisation including several right-wing factions opposed to the Weimar government – is formed after WWI. It becomes the largest such party in Germany prior to expansion of the Nazis.



Emblem of the German National People's Party

1925

**Electing the old general**  
The DNVP counts more than 20 per cent of German voters among its supporters and campaigns for the election of General Paul von Hindenburg as president of Germany.



Hindenburg's swearing-in ceremony, 1925

1928

**Hard right turn**  
Alfred Hugenberg assumes leadership of the DNVP and turns sharply to the political right, increasing resistance to the Weimar government. The popularity of the Nazis begins to erode the DNVP power base.



Alfred Hugenberg, leader of the DNVP



# EVOLUTION OF THE NAZI PARTY

## Freikorps

How these German volunteer units became embroiled in the Nazi Party

1918

**Up from defeat**  
Late in the year, the first paramilitary Freikorps units organise. Composed largely of former soldiers, the right-wing Freikorps oppose the Weimar Republic and leftist groups.



1919

**Continuing unrest**  
At least 65 Freikorps units are organised across Germany. They engage in street violence and the suppression of communist and left-wing uprisings, often resorting to terror and murder.



1920

**Reach for power**  
The Freikorps is supposedly disbanded but continues to operate for years to come. Some Freikorps leaders participate in the failed Kapp Putsch.



Right-wing nationalist Wolfgang Kapp

## Reichswehr

Hitler's relationship with Germany's military was key to the Nazis' success

1919

**Military reorganisation**  
Following the defeat of Germany in World War I, the armed forces of the Weimar Republic, the Reichswehr, are created from the Provisional National Army and Navy.



Reichswehr soldiers during a training exercise

1920

**State within a state**  
The leadership of the army refuses to fully support the Weimar government, and General Hans von Seeckt, appointed chief of army command, begins to operate in a virtually autonomous manner.



General von Seeckt stands with Reichswehr officers

1920

**Clandestine rebuilding**  
Although the Treaty of Versailles limits the size of the German army to 100,000, General von Seeckt conducts a clandestine campaign to build and maintain a "shadow army".



1925

## Birth of the SS

The Schutzstaffel, or SS, is founded as a bodyguard for Hitler but evolves into a sizeable force with security, administrative, and military responsibilities.

1928

## A landmark election

During Reichstag elections, the Nazi Party receives nearly three per cent of the vote, gaining them attention from other political groups and arousing interest in the party across Germany.



Germans with campaign posters

1930

## A force in the Reichstag

During the national election, the Nazis receive 6 million votes and increase their representation in the Reichstag from 12 seats to 107.



A Nazi Party election poster

1932

## Nazi presidential aspirations

Paul von Hindenburg, a hero of World War I, soundly defeats Hitler in the presidential election, although the Nazi candidate receives 37 per cent of the vote.



One of Hitler's election posters

1933

## Terror on the march

Chancellor Franz von Papen lifts the ban on the SS and paramilitary Sturmabteilung, or SA. The Nazis receive 13.7 million votes during election, achieving a Reichstag majority with 230 seats.



Members of the SA stand at attention prior to a parade

1933

## Chancellor of Germany

Convinced that the Nazis can be controlled if their leader is included in a coalition government, President Hindenburg appoints Hitler as the chancellor of Germany.



This propaganda poster depicts Hindenburg and Hitler as leaders of government

1934

## The Blood Purge

To appease the army and eliminate a perceived threat to his power, Hitler purges the SA leadership and settles old scores during the Night of the Long Knives.



1931

## Co-operation and coalition

The DNVP begins co-operating with the Nazis, forming coalition governments, which leads to Hugenberg's appointment as minister of economics and agriculture under Chancellor Hitler two years later.



Chancellor Hitler sits with members of the Reich cabinet

1933

## DNVP end game

Hugenberg advocates changing the DNVP name to the German National Front (DNF) to be more representative of the country's political landscape. However, its influence wanes and many members join the Nazis.



1933

## Allegiance to the Nazis

During a solemn ceremony, old Freikorps flags are handed to the leaders of the SA and SS in a symbolic union with the Nazi Party.



1922

## Assassination as a political tool

Ex-members of a Freikorps unit assassinate Foreign Minister Walther Rathenau, whom they believe is sympathetic to the political left. Rathenau is also Jewish.



Rathenau was killed by a former Freikorps unit

1933

## Armed rivalry

After Hitler becomes chancellor of Germany, the Reichswehr continues its expansion. However, senior officers raise concerns about the growing power of the Sturmabteilung (SA), many times larger with approximately 3 million men.

1934

## A question of loyalty

Gaining the co-operation of the army, Hitler purges the SA during the Night of the Long Knives. German soldiers are later required to swear an oath of loyalty to Hitler.



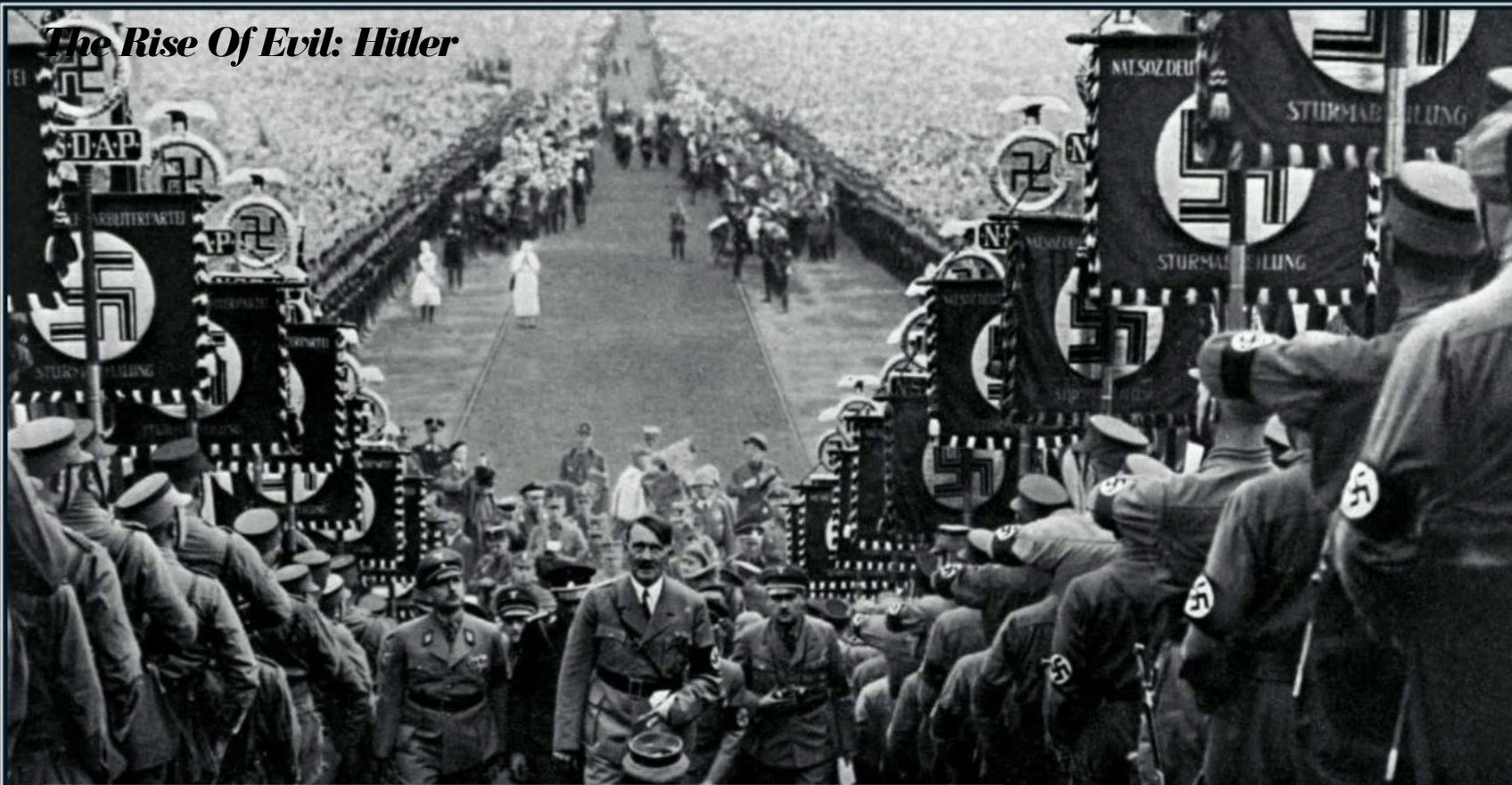
Hitler poses with SA troops in 1928



Nazi propaganda election poster, "Women! Save the German Family! Vote for Adolf Hitler!" c.1930



## The Rise Of Evil: Hitler



“After some initial concerns about Nazi ideology, Goebbels became a classic example of those who believed that if Hitler said it, then it must be right”

Flanked by banner-carrying SS, Hitler takes part in the harvest festival at Bückeburg

### Hitler's faithful followers

During this period, Hitler had also begun to surround himself with the men who would be crucial to the development of the Nazi movement and within the Nazi government. Joseph Goebbels, who would be devoted to Hitler right through to the apocalyptic, suicidal days inside the Führerbunker in 1945, was an intellectual radical who had a doctorate in German literature. After some initial concerns about Nazi ideology, Goebbels became a classic example of those who believed that if Hitler said it, then it must be right. Hitler, therefore,

became a sort of religious figure in whom his followers had faith.

Emotional devotion was valued over rationality and reason, and this tendency characterised Hitler's entire rule. In 1927, Hitler said: “[We] put faith in the first place and not cognition. One has to believe in a cause. Only faith creates a state. What motivates people to go and do battle for religious ideas? Not cognition but blind faith.”

This was certainly a characteristic seen in Goebbels, for upon reading *Mein Kampf*, he declared: “I love him... such a sparkling mind can be my leader. I bow to the greater one, the political genius... Adolf Hitler, I love you because you are great and simple at the same time. What one calls a genius.”

Similar attitudes of blind devotion were expressed by Rudolf Hess, who had joined the Nazi Party in 1920 after already having spent time in Germany's right-wing movement, and Hermann Göring, the World War I flying ace who joined the Nazi Party in 1922. He later became one of the most important men in the Third Reich, initially heading the SA (Stormtroopers), then founding the Gestapo (the Nazi secret police) and heading the Luftwaffe (air force).

Ernst Röhm represented a different type of Nazi. Like Hess and Göring, he had been an early supporter of the movement. He joined the Nazi Party in 1919 and played a key role in the Beer Hall Putsch. He held an important position in the

leadership and the establishment of the SA but he saw the journey of the Nazi Party very much as a revolution, even beyond the Putsch, when Hitler had decided to gain power through the political mainstream. To this end, Röhm said, “...since I am an immature and wicked man, war and unrest appeal to me more than good bourgeois order. Brutality is respected, the people need wholesome fear.” While he was one of Hitler's closest friends in the early days of the Nazi movement, he did not see Hitler as a divine leader to whom he had to submit himself. He wanted to pursue his own objectives and power within the party and it was this lack of obedience that ultimately led to his demise in 1934. Gregor Strasser, who, with his brother Otto, wanted to emphasise the Socialist element of National Socialism above all else, similarly tried to strike his own path within the movement and lost out.

### Economic crisis

While the profound distress caused by the loss of World War I and the social and economic chaos that followed had inspired a number of Germans to at least give the Nazi Party a hearing, by the mid-1920s conditions had improved and most people had turned away from the extreme fringes of politics. By the late 1920s, however, the instability and turmoil needed by the Nazi Party to present themselves as a viable alternative government had returned.





# AXIS OF THE WEIMAR RIGHT

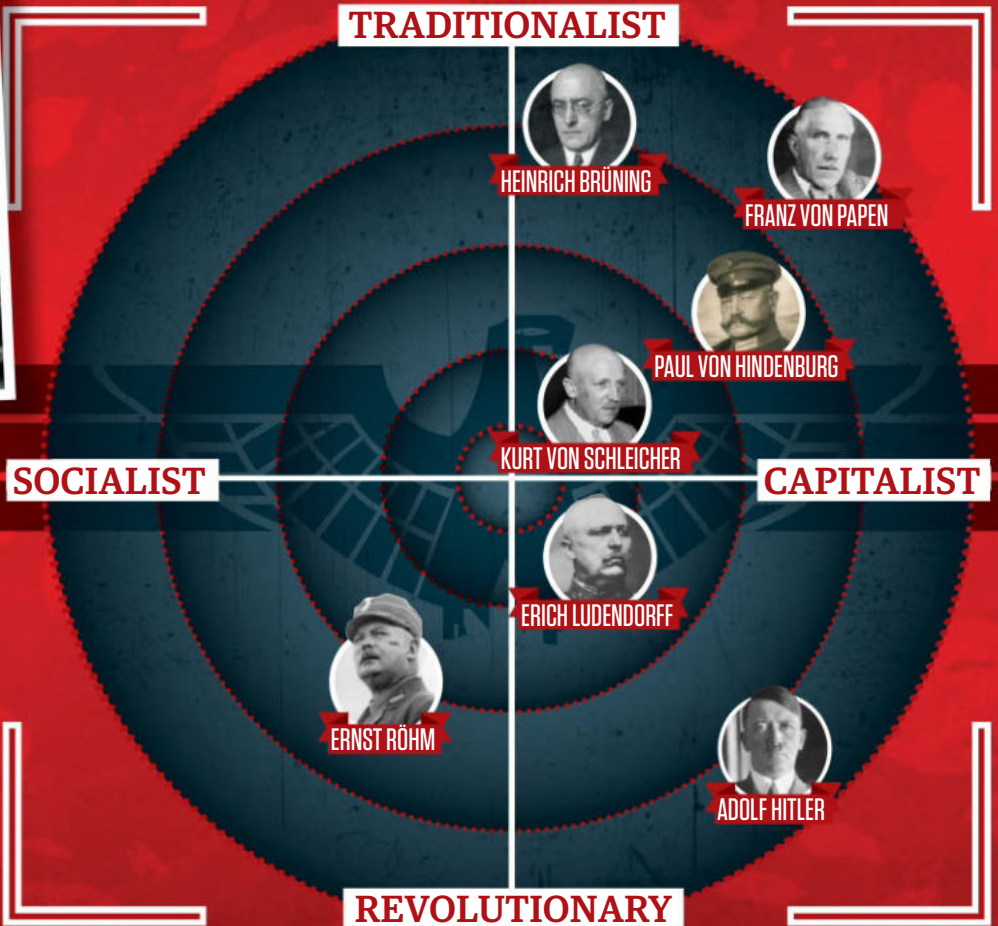
The German government's key players had different approaches to healing the nation



Adolf Hitler addresses massed ranks of soldiers at a Nazi rally held in Dortmund, c.1933

In 1928, food prices on the world market were beginning to drop and German agricultural workers were suffering. Germany's recovery from the disastrous hyperinflation of 1923, itself brought on by Germany's attempts to pay French and British war reparations imposed by the Treaty of Versailles, had been based upon loans from the United States. As the world economy began a downturn, so Germany's already fragile economy was threatened. When the financial markets of Wall Street crashed in 1929, heralding the beginning of the Great Depression, the USA called in its loans and the German economy, like so many economies around the world, went into a major downturn.

The mainstream parties in Germany seemed to offer little hope or constructive help to the general populace as major banks folded and unemployment spiralled out of control. By the end of 1929, about 1.5 million Germans were out of work. Within a year this figure had more than doubled. By early 1933, unemployment in Germany had reached a staggering 6 million. Governmental response had been to cut expenditure, wages and unemployment benefits - a disastrous move. As well as affecting the working class, the economic pain spread to the



## ADOLF HITLER

Leader of the Nazi Party since the 1920s, Hitler believed in the totalitarian state, preeminent in every way above the individual. Pragmatic in his politics, he was compelled to work together with German industrialists and financiers to consolidate power. However, he loathed capitalism, and promoted the state control of economic and social institutions.

## HEINRICH BRÜNING

As chancellor of Weimar Germany from March 1930 to May 1932, Brüning's negotiations with the Nazis failed to produce a coalition government. In his memoirs he claimed to have advocated the restoration of the Hohenzollern monarchy to prevent Hitler from taking control if Hindenburg died in office.

## PAUL VON HINDENBURG

The hero of World War I, elderly Hindenburg served two terms as the president of Germany. Considered

the conservative choice, Hindenburg became embroiled in the country's post-war political upheaval. In 1933, he signed the Enabling Act, vesting near-dictatorial power in Hitler and becoming complicit in the rise of the Nazi Party.

## ERNST RÖHM

A radical socialist, Röhm led the Sturmabteilung, or SA. His ruffians brawled with anti-Nazi factions in the streets. As the SA grew to outnumber the German Army, Hitler perceived it as a threat. Röhm was assassinated and the SA leadership purged during the Night of the Long Knives in 1934.

## FRANZ VON PAPEN

A conservative and monarchist who served as chancellor of Weimar Germany in the Weimar Republic from June to November 1932, Papen was largely responsible for convincing Hindenburg to appoint Hitler Chancellor of Germany in 1933, believing that a post in government

would keep Hitler and the Nazis under control. He was sadly mistaken.

## KURT VON SCHLEICHER

The last chancellor of Weimar Germany, Schleicher was instrumental in rebuilding the German Army in contravention of the Treaty of Versailles. Politically moderate, he attempted to form a centrist coalition government, opposing burgeoning Nazi influence. This move earned Hitler's enmity, resulting in his assassination in 1934 during the Night of the Long Knives.

## ERICH LUDENDORFF

An influential army general during World War I, a disillusioned Ludendorff became associated with right-wing political activism during the 1920s and participated in failed coup attempts in 1920 and 1923. Ludendorff served as a National Socialist member of the Reichstag but later warned of the dangers posed by a Nazi government.



# The Rise Of Evil: Hitler

middle-class, too. People looked desperately for answers, assistance and hope. The extreme parties seemed to provide answers for extreme times, and the communists and Nazis fought it out on the streets for supremacy.

Hitler was in his element. Nazi party membership rose from 120,000 in 1929 to over 1 million by 1930. In the frequent elections brought about by ongoing instability, the Nazis rose from 2.5 per cent of the vote in 1928 to over 18 per cent in 1930. By 1932, the Nazi Party polled almost 40 per cent of the vote. Hitler's message was for unity for 'true' Germans. He called for a return to the comradeship of the war years. Jutta Rüdiger, who would later lead the League of German Girls, recalled, "I was told that this frontline soldier (Hitler) had said... the only thing that matters is comradeship, the willingness to help and stand by one another."

## Vote Hitler

In 1932, Hitler challenged the ageing World War I general Paul von Hindenburg for the German presidency. In the chaos of ineffectual government, revolving-door chancellors, economic pain and social upheaval, Hitler ran two impressive presidential campaigns due in large part to the work of his propaganda chief Joseph Goebbels. Hitler became the first politician to travel widely throughout the country by aircraft. Seeming to descend from the heavens as he travelled to as many as five cities a day to speak, the 'Hitler over Germany' campaign was an enormous success.

Striking and effective election posters were put to good use. "Hitler - our last hope," read one. "Workers - the Brow, the Fist - vote for the Front Soldier Hitler!" read another, showing two burly working men gazing fiercely at the viewer. "German women, think of your children - vote Hitler," appealed another, as a fearful female figure clutched her children. One claimed, "Marxism is the guardian angel of Capitalism - vote National Socialist," with capitalism depicted as a smartly dressed, overweight Jewish man, holding a bag of money. These simple posters spoke to everyone - men, women, the population at large - and they zeroed in on a common enemy: the Jew.

However, Germany's political elite was unconvinced that the working-class corporal, as



Newly elected German Chancellor Adolf Hitler being cheered by deputies during the first Reichstag session, 21 May 1933

Hitler strikes a pose for a photographer while rehearsing a speech. Hitler reviewed each pose to maximise the effect his words would have on the German people

they saw him, was the man for the job. With the country's social, political and economic chaos continuing to press in though, steps had to be taken. Believing they could control Hitler and the excesses of the Nazis if they were contained within government rather than agitating from outside, Hindenburg consented to Hitler becoming chancellor of Germany with Franz von Papen, a conservative, as vice chancellor.

The error of their ways was swiftly realised. Less than a month after Hitler's appointment as German chancellor on 30 January 1933, Berlin's Reichstag building caught fire. A Dutch communist, Marinus van der Lubbe, was blamed but there were rumours of Nazi involvement. It was the final sign of total national emergency according to Hitler. The Enabling Act was passed on 24 March 1933. It allowed for the power to make laws without parliamentary passage through the Reichstag. Hitler proclaimed the Nazi

Party was the only political party permitted in Germany. All other parties and trade unions were disbanded. Individual German states lost any autonomous powers, and Nazi officials became state governors. Jews were declared 'non-Aryans' and as such were banned from teaching, the civil service, the military and owning businesses. The first concentration camp at Dachau, near Munich, was opened on 21 March 1933. Hitler was now effectively dictator of Germany, and the nation a totalitarian police state.

With his external enemies under control, Hitler turned his attention to the enemies within his own ranks. Hitler decided to act against Ernst Röhm, who had continued to agitate for a greater slice of power. He would not be subservient to the Führer and he believed the Stormtroopers should be merged with the German Army and fall under his command. Himmler and Göring concocted false evidence that Röhm was planning a coup. Hindenburg demanded that Hitler react. On 30 June 1934, Röhm and the SA leadership were executed along with anyone who Hitler felt had crossed him on his rise to power; Gregor Strasser was included on that list.

Hitler's blood-soaked Third Reich had begun.





# INSIDE THE NAZI TERROR STATE

Hitler sought to control every aspect of German life to maintain his grip on power



## PERSUASIVE PROPAGANDA

The Nazis utilised a systematic campaign to promote their ideology and persecute perceived enemies of the German people. Propaganda effectively engendered loyalty to the Nazi state, embodied by Hitler. "One Reich, one people, one Führer!"



## CONSOLIDATION OF GOVERNMENT

As chancellor, Hitler abolished the office of president and declared himself Führer. He effectively assumed the role of dictator as he suspended personal liberties, eliminated enemies and silenced opposition.



## RELIGIOUS REDIRECTION

Realising religion was significant in the lives of many Germans, the Nazis were careful not to risk open hostility against the mainstream church. However, they utilised nationalism and the figure of Hitler as 'saviour' to conjure 'religious' fervour.



## RESOLUTE YOUTH

Young people belonged to greater Germany. The Führer once told a gathering of Hitler Youth that they were Germany's future, required to be "hard as Krupp steel." From classrooms and into the fabric of family, the state held sway.



## REIGN OF TERROR

A pillar of Nazi rule, terror gripped Germany. Threats of imprisonment, torture, or death were real for those who dared to dissent. The Nazi secret police, or Gestapo, seemed everywhere. Neighbours turned against neighbours.



## THE WORKING MASSES

The Nazis abolished trade unions, absorbing their memberships into the Reich Labour Front. They also capitalised on mass unemployment to generate work projects and state-controlled jobs to create the illusion of long-term prosperity.



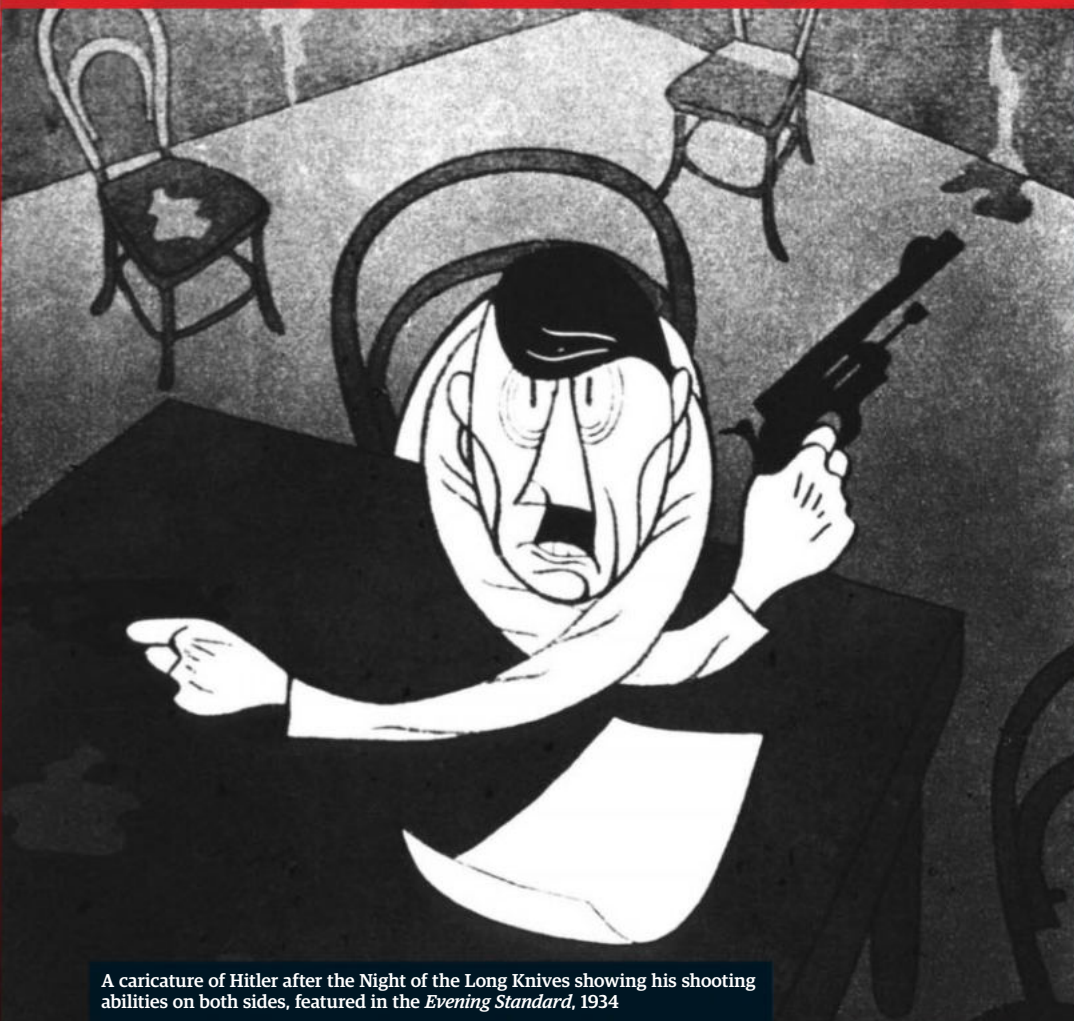
## COERCIVE CULTURE

Art, literature, music, or any form of expression deemed decadent or subversive was consigned to the flaming pyre. Every aspect of German culture, from sculpture to architecture, science and social interaction, reflected the Nazi world view.



Hitler as a commanding presence during a Nazi rally, c.1933

"Hitler's message was for unity for 'true' Germans. He called for a return to the comradeship of the war years"



A caricature of Hitler after the Night of the Long Knives showing his shooting abilities on both sides, featured in the *Evening Standard*, 1934



# Time Traveller's Handbook

## SAMARKAND

Central Asia,  
Late-14th century

**F**or thousands of years the city of Samarkand has stood at the crossroads of world cultures. Thanks to its abundance of natural resources, humans have been able to live in the region since 1500 BCE. Samarkand has long been established as a centre of trade and commerce, renowned for its production of luxurious exotic crafts and attracting artisans across Asia who wish to make a living. Due to its diversity of peoples, Samarkand became a cornucopia of religions and cultures.

This all came to an end when the land was invaded, destroyed and burned to the ground by the warlord Genghis Khan. With its stunning architecture in ruins, those who had loved the city were forced to flee it. Now, in 1370, Timur, the founder of the Timurid Dynasty, has grand plans to rebuild Samarkand and re-live its former glory. Still situated at a crucial point on the profitable Silk Road trade route, Samarkand is rising from the ashes to become a culture of trade, commerce, culture and intellect once more.

FIG.01

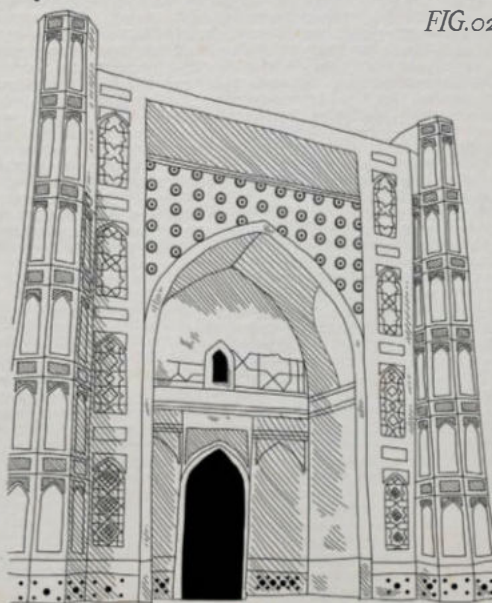


*Did you know?*  
The current Samarkand is in a new location, south of its previous site.

### WHERE TO STAY

No matter where you stay in the city there is a chance you can be uprooted at any moment. Samarkand is in a constant state of construction due to Timur's grand vision for his capital city, ordering some buildings to be immediately torn down and rebuilt if they do not meet his exceptionally high standards. He is also not afraid to clear out his citizens' houses if they get in the way of his plans. Of particular note is the mosque built in memory of his wife. Almost as soon as it was built, he declared the entrance archway was too low, and immediately ordered it be pulled down and started again.

FIG.02



### Dos & don'ts

**✓ Feel welcome, no matter your ethnicity or faith.** Timur's armies welcome soldiers based on skill rather than ethnicity, and it is the same in his capital city, which flourishes due to trade with a range of people.

**✓ Keep an eye out for many famous faces of the era.** The Arab traveller Ibn Battuta will visit the city, and Henry III's ambassador, Ruy González de Clavijo, is stationed there.

**✓ Check out the beautiful architecture.** Most notably the Shah-i Zinda necropolis, which includes breathtaking mausoleums and, as the legend goes, houses the body of the cousin of the prophet Muhammad.

**✓ Find the central street through the city.** There you can buy anything in the shops, which have every kind of merchandise.

**✗ Forget to brush up on your Persian.** Although Timur is a Turco-Mongol, Persian culture has been fully embraced, and the primary language used by his scribes is Persian.

**✗ Worry about invasion.** The city is only accessible by roads and is separated from its neighbours by deep ditches and walls that run eight kilometres in circumference.

**✗ Assume the Khans have power.** Although officially Genghis's descendants are in charge, in reality they are puppet rulers. Timur is the one in control.

**✗ Argue against Timur's re-building.** Those who had their houses torn down were sent away with no warning, taking with them only what they could carry.



## WHO TO BEFRIEND

### Timur

In the early-13th century, the thriving city of Samarkand was invaded and burned to the ground by Genghis Khan. However, it has experienced a rebirth thanks to Timur.

The leader has made the city the capital of his expanding empire and encouraged trade and commerce, forcefully moving skilled artisans and intellectuals from all across Asia to his new capital. Although Timur is a warlord responsible for the deaths of approximately 17 million people, he is also a great patron of the arts and architecture. He would be a very powerful influence and ally to have on your side.

### Extra tip:

**An easy way to befriend**

**Timur is to pander to**

**his second love after war:**

**architecture. He is obsessed with creating magnificent monuments,**

**and his dedication is so great that he**

**had the Arab proverb, "If you want to know about us, examine our buildings," inscribed upon one of them.**

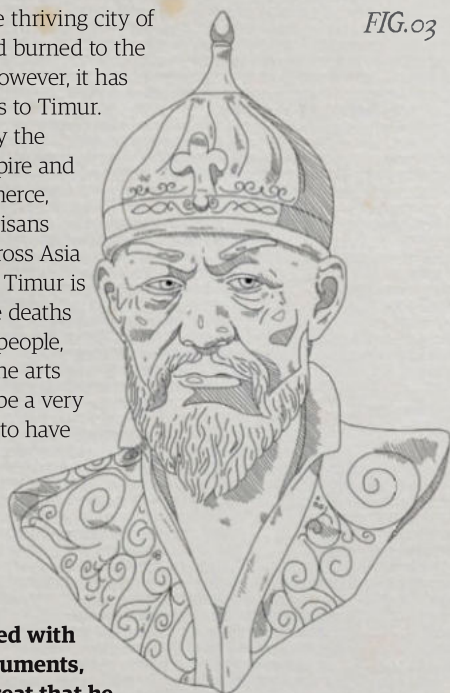


FIG.03

## WHO TO AVOID

### Timur's enemies

Although the conqueror is a powerful friend to have, he also makes a very fearsome foe. Although he is known to show mercy to those who surrender to him, his brutality towards enemies and rebels is infamous. Many cities that revolt against him are punished by brutal slaughter of innocent citizens. In Isfahan, he ordered the creation of 28 towers constructed out of 1,500 human heads. Anyone he suspects of corruption or betrayal is immediately executed. The tax collectors or those in power are usually the first to go, but he often spares the artistic and intellectual citizens. To prevent your own head becoming a feature in his grisly towers, avoid associating with his enemies at all costs.

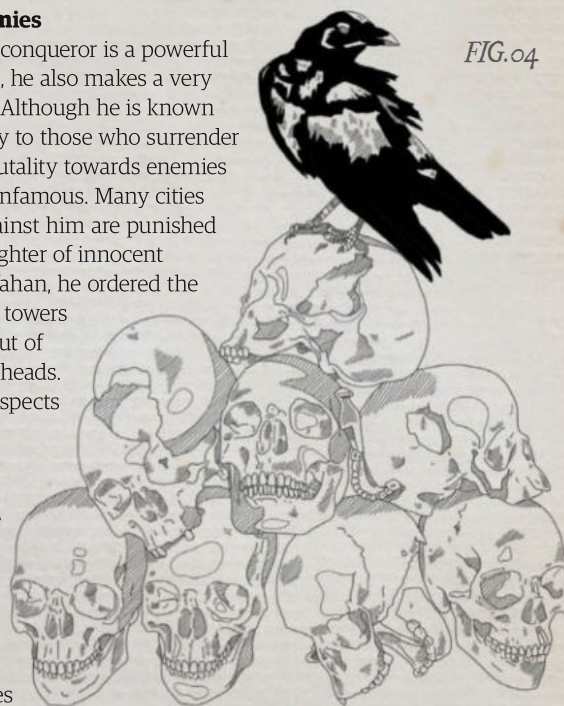


FIG.04

## Helpful Skills

The essential skills to help you succeed on one of the most profitable trade routes in history

### Construction

Samarkand is in the midst of rapid expansion and rebuilding. The old houses are being torn down to create a new street that extends from one side of the city to the other with shops all along it.

FIG.05

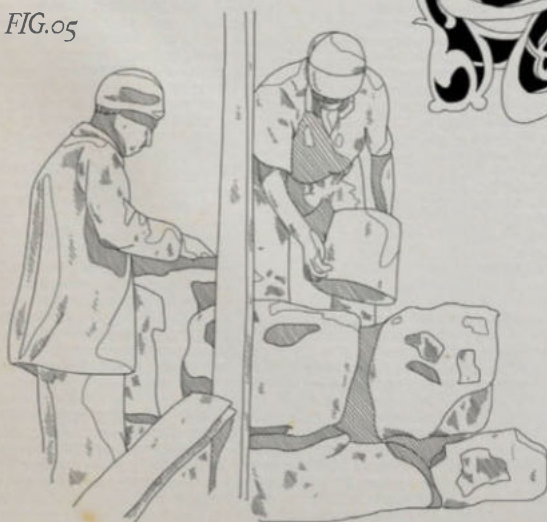


FIG.06

### Painting

This era is the golden age of Persian painting. Chinese artists have heavily influenced Persians resulting in a unique and stunning craft combining calligraphy, illustration and binding to produce stunningly colourful books.

FIG.07




### Commerce skills

Samarkand is known most of all as a city of commerce; you will do well if you know how to sell goods. The city is especially renowned for its markets full of leather, linen, silk, spices and exotic fruit like melon and grapes.









# REVENGE

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## OF THE

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# SAMURAI WARLORD

From child hostage to Japan's supreme shogun,  
how one man battled with patience and  
cunning to claim the ultimate prize

Written by Frances White

**N**obunaga, Hideyoshi and Tokugawa were watching a cuckoo bird waiting for it to sing, but the bird would not. Nobunaga said, "Little bird, if you don't sing, I will kill you." Hideyoshi said, "Little bird, if you don't sing, I'll make you sing." Tokugawa Ieyasu said, "Little bird, if you don't sing, I will wait for you to sing."

This famous tale typifies the attitudes of the men who would one day be known as the three great unifiers of Japan. But their road to becoming characters in Japanese legend was one forged by war, betrayal and death.

Tokugawa Ieyasu was born in the midst of the Sengoku, or warring states, period of Japan. Due to a lack of strong leadership from the capital, Kyoto, Japan had been plunged into a brutal and bloody civil war. The land was shattered into different, ever-changing regions ruled by warlords known as daimyo. It was a world of hardship and ruin, where a single mistake could cost a man his life, but it was

also a time of opportunity where anybody, even the lowest peasant, could rise to the top.

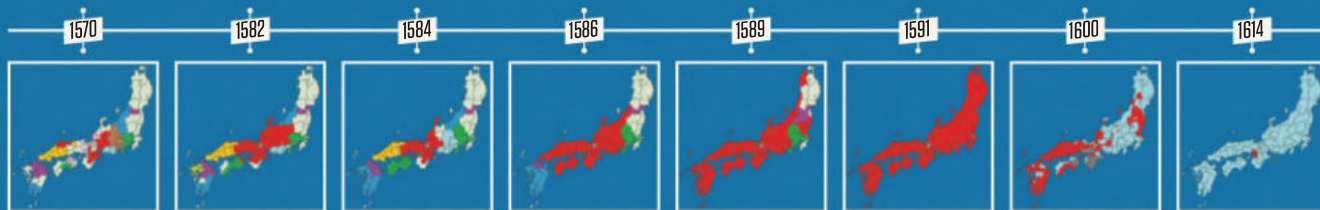
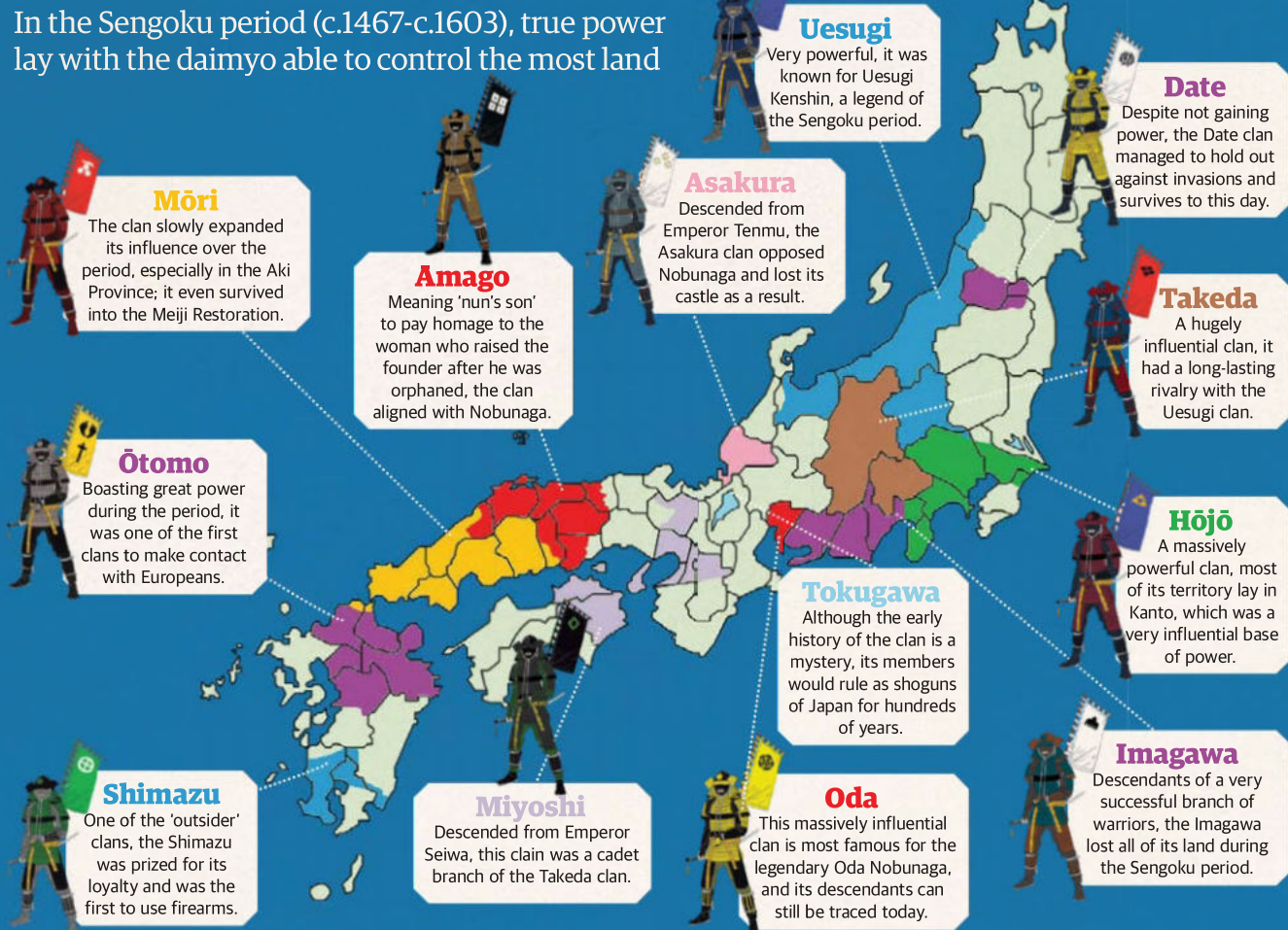
Ieyasu was the son of one of these warlords. The family was not particularly powerful or wealthy, but since his earliest days Ieyasu's life was one of constant conflict and backstabbing. His mother was forced to abandon the family when Ieyasu was two years old due to shifting alliances. Ieyasu himself was sent as a hostage to secure an alliance when he was just four. His father was forced to give him up to the head of the powerful Imagawa clan in return for their support, as a kind of insurance policy. However, before he could reach them, Ieyasu was kidnapped by their rivals, the brutal Oda clan. The Oda leader demanded Ieyasu's father switch allegiances to him, else he would kill the boy. Ieyasu's father then demonstrated the sheer strength of will and cunning that his son would utilise throughout his own life - he told the Oda to go ahead, kill his son, that would demonstrate to



## CLAN WARFARE

In the Sengoku period (c.1467-c.1603), true power lay with the daimyo able to control the most land

To the north lies the Island of Hokkaido, which in this period was predominantly inhabited by the native Ainu



Lasting more than 100 years, the warring states period was one of the most dangerous in Japanese history. Although the emperor was 'officially' the leader of the country, he simply served as a religious symbol, and most of his power was wielded by the shogun, a nobleman. However, the shogun's influence over the many daimyo - local lords ruling over different areas - gradually began to lessen. As the shogun's power diminished, ambitious lords forgot their loyalty to him and began to fight among themselves for control of land, riches and power. This caused huge fractures across the country, and erased any aspect of unity and order within Japan.

The period officially began with the Onin War, a conflict born out of a dispute over succession of the shogun. This disagreement over the correct man to succeed the shogun soon spread across Japan, involving many powerful and influential daimyo. The fighting in Kyoto was so intense it lasted for over a decade and all but destroyed the city. Local lords quickly rose to fill the power vacuum left by the infighting, allowing many charismatic and powerful daimyo to gain support, men and land. Without central authority to maintain order and loyalty, the country was plunged into a period of social meritocracy where anyone, even the lowest on the

social ladder, could climb to the top and usurp the most powerful.

From the ashes of these wars rose several powerful clans, which gradually engulfed weaker clans, whether by persuasion or by force. Several significant, large-scale battles saw huge expanses of lands claimed, and then re-claimed by different daimyo as they built up their armies. From these battles a number of men gained fame and notoriety - Oda Nobunaga, Toyotomi Hideyoshi and Tokugawa Ieyasu were just three of the ruthless and cunning men who used this period of social upheaval to carve their names into Japanese history.



the Imagawa just how committed he was to them. The Oda were torn - if they killed Ieyasu they would strengthen their rival's partnership, if they gave him back they would lose their bargaining chip; so they did nothing. For seven years Ieyasu changed hands between the two rival clans, until finally he came of age, a captive of the Imagawa.

Although his life as a hostage had been reasonably comfortable, Ieyasu had been forced to do nothing as his father was murdered and his family's fortunes and power slowly disintegrated. The battle between the Imagawa and the Oda still raged, but by 1560 something changed. The Oda came under the leadership of the fiery, fearless and brilliant Oda Nobunaga, and as the two clans clashed again, Oda came out on top, killing the leader of the Imagawa, and Ieyasu's captor. Ieyasu saw this as his chance to finally break free of the shackles that had bound him for years. He not only wanted to reclaim his family's glory, he also wished to take control of his own life.

Ieyasu returned to his family's castle and what limited number of relatives and vassals were still aligned to it. Then, as the new clan leader, he took careful steps to make a deal with Oda Nobunaga. The powerful daimyo Nobunaga was not like Ieyasu, who had patiently waited for years to make his move, he was reckless, headstrong, and decisive. Many at the time believed he might have a mental illness due to his sometimes "hysterical" and "nonsensical" behaviour, and yet Ieyasu, nine years his junior, was able to convince this feared and brutal warlord to ally with him. On Ieyasu's

part this was a great gamble, a step wrong and the mighty Nobunaga could have his tiny clan wiped from the face of the country, but mistakes were not something Ieyasu ever planned to make.

Establishing this partnership was one of the most important moves in Ieyasu's life. Although allegiances had occurred between clans before, they were often short-lived and quickly destroyed by death or betrayal. For the next few years, Ieyasu worked on strengthening his clan, and the combined Oda and Tokugawa force quickly became one to be reckoned with. The allegiance between the two men was so commanding that it all but eliminated the hugely influential Imagawa clan. Neither Nobunaga nor Ieyasu were idiots, and both of them realised just how important their loyalty was to their survival. To cement this, in 1561, Nobunaga had his daughter married to Ieyasu's son.

While Nobunaga continued to set his sights on claiming enough land to easily grasp control of Kyoto, Ieyasu had his own battles. Building a clan from the ground up was not easy, even with Nobunaga's influential name behind him. He worked tirelessly to strengthen his hold on his native land, and build respect with his key vassals. Ieyasu was very aware that one man alone could not maintain control - he needed a reliable army.

One of the main forces standing in Ieyasu's way was the Ikko-ikki. This group of warrior monks had begun as peasant farmers unsatisfied with daimyo rule, however, they had quickly gained popularity and power - toppling rulers and claiming provinces. Because they were, strictly speaking, a religious

group, they were able to build their heavily fortified temples anywhere, and Ieyasu became distrustful of the Ikko-ikki that had settled in his home province of Mikawa. Another factor drew Ieyasu to the monks - their temples lay at key crossroads vital for trade and commerce. Nobunaga had already expressed distaste for the group, and Ieyasu wasn't afraid to follow his comrade's lead.

When the monks refused to bow to his commands, Ieyasu declared war. However, to fill his numbers and ensure success against such an unusual enemy, Ieyasu employed the help of warrior monks from another temple. The fighting was fierce and brutal, and Ieyasu personally took to the field. The young daimyo, then aged just 20, was still eager to prove himself as a capable leader for his vassals to rally behind. He rushed to the front of the lines, yelling commands to his men and challenging the enemy.

Ieyasu's fierce leadership put him dangerously close to the line of fire, and he was almost killed several times by bullets that pierced his armour but narrowly missed injuring him. His heroic conduct in battle was so inspiring that many of the daimyo-loathing Ikko-ikki switched sides during the conflict. This tipped the scales in Ieyasu's favour and the warrior monks were defeated. This battle was not only a victory over his foes, but also helped establish respect for the young daimyo, something that would be vital in the conflicts to come.

Four years after this, Ieyasu's soldiers helped Nobunaga's to capture Kyoto. With a new heir to the shogunate in tow, Nobunaga installed the shogun without much opposition. Nobunaga was hardly on a quest for justice for the new shogun, but instead very much intended to use him as a puppet ruler in order to justify his future conquests.

Despite growing opposition to Nobunaga's rule, Ieyasu did not plan to abandon his loyalty to his

## "THE FIGHTING WAS FIERCE AND BRUTAL, AND IEYASU PERSONALLY TOOK TO THE FIELD"



There is a theory that Ieyasu was switched with an imposter after the Battle of Sekigahara, explaining a reported "sudden change of behaviour"



Despite his impressive ascent to power, Hideyoshi rarely spoke of his past, and there is little recorded



comrade. In 1571, Takeda Shingen set his sights on taking Kyoto, and to do so had to go through Ieyasu's land. Ieyasu assembled his troops on an open plain and prepared to face the Shingen forces. However, Ieyasu's luck finally took a dip; the Shingen were famous for trailblazing the cavalry charge in Japan, and this mighty attack devastated Ieyasu's forces. The charge was so brutal that when Ieyasu fled to his castle, he made it back with only five men. With the Shingen forces hot on his trail, any other daimyo would have surrendered to their fate, drawn their sword and committed seppuku (ritual suicide). However, Ieyasu was the man who had survived everything life had thrown at him, and he wasn't about to abandon all hope now.

Ieyasu took a dramatic step. He lit all the braziers in the castle, then he threw open the gates and had one of his men beat a drum. Ieyasu's bold actions had two dramatic consequences. First it helped lead the survivors of the battle back to the castle, and second, incredibly, it stopped the Shingen forces in their tracks. Ieyasu's reputation preceded him and the Shingen feared that he was planning a trap. Instead of charging and taking a castle with only five men guarding it, they stopped for the night.

Shingen was right, Ieyasu did have a plan - or rather, a secret weapon. At his disposal he had the celebrated ninja Hattori Hanzo, and he planned to use him to full effect. That night, Hanzo led a small band of men into the Shingen camp and unleashed chaos in the vanguard. The Shingen forces were thrown into complete confusion by the sneak attack and Takeda himself became convinced that Ieyasu had a large force at his disposal. Terrified of what Ieyasu could unleash, Takeda fled.

For the next seven years Ieyasu and Nobunaga's partnership continued to hold strong, and they celebrated an impressive victory in the Battle

## "TERRIFIED OF WHAT IEYASU COULD UNLEASH, TAKEDA FLED"

of Nagashino. However, they experienced a difficult patch in their alliance when Ieyasu's wife and eldest son were accused of conspiring to assassinate Nobunaga. As a result, Ieyasu's wife was executed and his son forced to commit seppuku. Ieyasu's thoughts towards this event were not recorded, but we do know he remained aligned to Nobunaga, indicating that he regarded his loyalty to Nobunaga as the most important thing in his life.

Aligning himself with the hugely powerful Nobunaga had served Ieyasu well so far, and he wasn't about to sever ties, not even for the sake of his own flesh and blood. However, something out of his control was fated to put an end to the duo for good. With knowledge and a motive lost to time, one of Nobunaga's vassals, Akechi Mitsuhide, betrayed his master. His troops assaulted

## BATTLE OF SEKIGAHARA

Sekigahara (present-day Gifu Prefecture), 21 October 1600

### 01 Ieyasu strikes

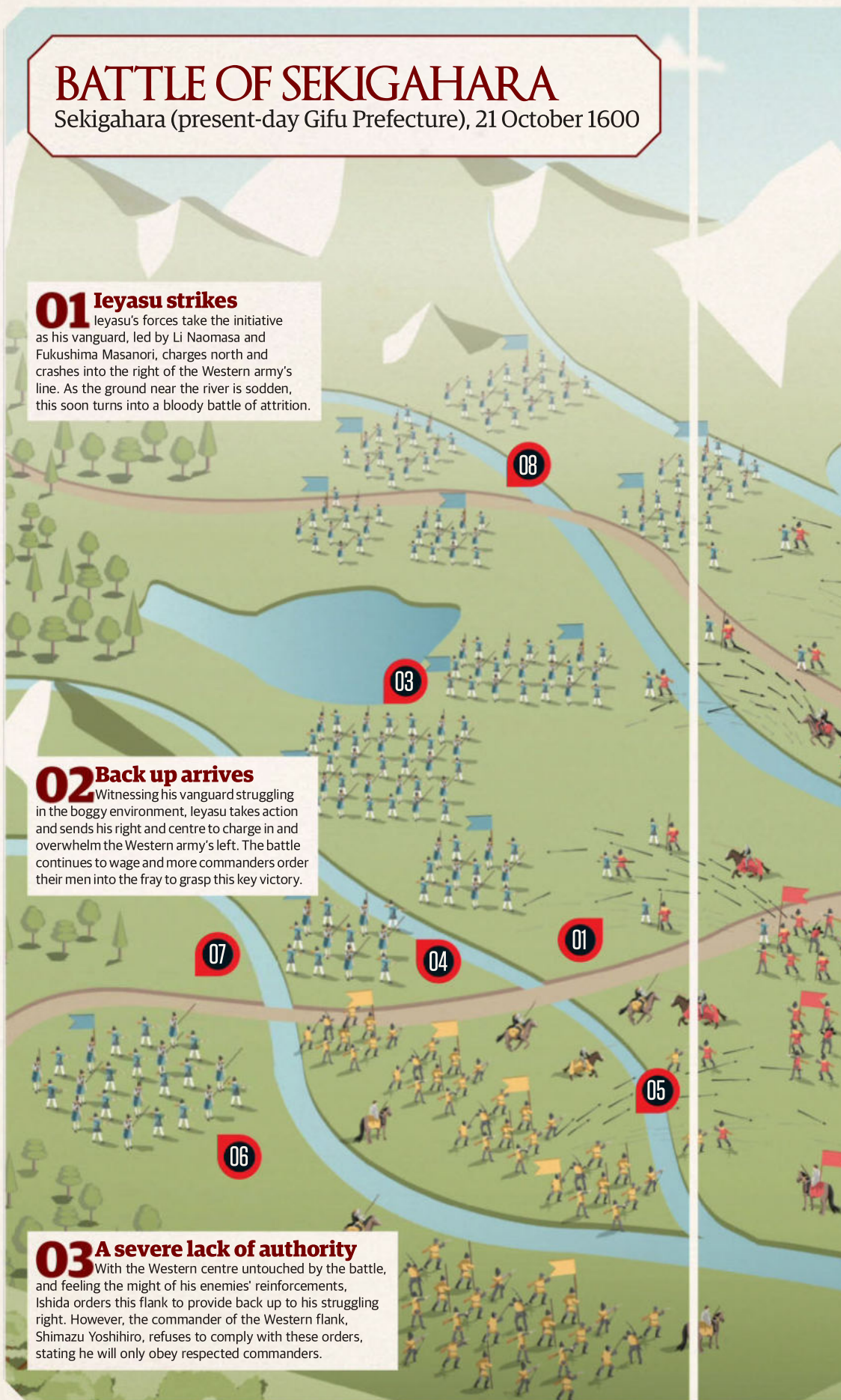
Ieyasu's forces take the initiative as his vanguard, led by Li Naomasa and Fukushima Masanori, charges north and crashes into the right of the Western army's line. As the ground near the river is sodden, this soon turns into a bloody battle of attrition.

### 02 Back up arrives

Witnessing his vanguard struggling in the boggy environment, Ieyasu takes action and sends his right and centre to charge in and overwhelm the Western army's left. The battle continues to wage and more commanders order their men into the fray to grasp this key victory.

### 03 A severe lack of authority

With the Western centre untouched by the battle, and feeling the might of his enemies' reinforcements, Ishida orders this flank to provide back up to his struggling right. However, the commander of the Western flank, Shimazu Yoshihiro, refuses to comply with these orders, stating he will only obey respected commanders.





## 08 A crushing defeat

With his right flank destroyed and Eastern forces now pressing upon his centre, Ishida makes the decision to retreat. The Western commanders scatter, but not all manage to escape the battlefield unscathed. Many are shot dead, some are captured and some commit seppuku.

## 07 The tide turns to the East

Witnessing Otani's struggle, many more Western commanders change sides, and these crucial numbers tip the favour to Ieyasu. Otani himself has no choice but to flee from battle. Without Otani's buffer, the Western right flank is ripe for the taking and is quickly destroyed by the buffered Eastern forces.

## 06 The charge is halted

Now a member of the Eastern army, Kobayakawa and his forces face heavy opposition from Otani, who benefits from dry gunpowder. They turn and open fire on the traitors, rendering the 16,000-man charge all but useless. However, this stretches Otani's already struggling forces thin, and they are overwhelmed by the Eastern soldiers.

## 04 The Eastern army gains the upper hand

Without key reinforcements, the Western army's right flank struggles to hold back Fukushima's attack, which slowly but surely gains ground. However, Otani Yoshitsugu, stationed across the Fuji River, uses his superior position to his advantage, attacking Fukushima's exposed soldiers.

## 05 An eventual defection

Kobayakawa Hideaki is the nearest to Otani, and before the clash had agreed to defect to Tokugawa, but he hesitates in the heat of battle. To force his hand, Ieyasu orders arquebuses to fire on his position. This finally prompts Kobayakawa to act, and his forces charge towards Otani's position.

九節以菊栗

阿倭能宇



## FEUDAL SYSTEM OF JAPAN

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### Emperor

Officially placed at the top of the social pyramid, the emperor was a leader in name only, and served merely as a symbolic figurehead.

### Shogun

Appointed by the emperor, the real power lay with the shogun, who served as the political and military leader of the country.

### Daimyo

The daimyo reported directly to the shogun, and often provided him with brute strength and numbers. Originally private land owners, daimyo were also exempt from paying taxes.

### Samurai

The most powerful and skilled warriors in Japan, the samurai were hired by daimyo to protect them from rivals. A very small percentage of the population made up this class, and its members were regarded with great respect and nobility.

### Ronin

The lowest noble class, ronin were samurai without daimyo's to serve, often due to the death of their masters through illness, old age or battle. Samurai could also become ronin from their own misdeeds.

### Peasants and artisans

Making up the majority of Japan, these people were ranked as the lower classes. Peasants, such as farmers, were regarded more favourably than artisans, due to the food they produced for the higher classes.



To this day, Nobunaga is a much debated figure - with some regarding him a brutal warlord, and others a driven warrior



Ieyasu was brutal when dealing with the Toyotomi survivors after the siege of Osaka, even beheading the eight-year-old heir

## "THIS MOVE WAS ONE OF THE MOST DANGEROUS HE HAD EVER MADE, AND FOR IT HE FACED THE WRATH OF HIDEYOSHI"

Nobunaga's entourage and surrounded them in a burning temple. There, in one of the inner rooms, the smoke seeping in and men thundering down the doors, Oda Nobunaga committed seppuku. Mitsuhide had managed to topple the most powerful daimyo in the land, but he wasn't finished yet, he wanted to eliminate Nobunaga's most loyal ally. He set his sights on Ieyasu.

Ieyasu was in the worst possible place when he learned of his ally's death, near Osaka, far from his own territory and safety. With Mitsuhide's troops bearing down upon him, once again Ieyasu called upon the help of Hanzo, the celebrated ninja. Together the men managed to escape Mitsuhide's troops by taking secret paths. Ieyasu made the perilous journey back to safety unscathed. It is of no doubt that Ieyasu would have wanted revenge on Mitsuhide. Once he had assembled his army, he marched to defeat him, but it was too late - someone else had beaten him to it, and this man would prove one of the most important and decisive figures in Ieyasu's life: Toyotomi Hideyoshi.

Hideyoshi was not like Nobunaga or even Ieyasu, he was not the son of a daimyo, and war was most certainly not in his blood - he was, instead, the son of a peasant and had, for many years, served as Nobunaga's sandal bearer. Slowly but surely his genius and skill was recognised by his master,

and he ascended the ranks to become a celebrated general and, finally, daimyo. Hideyoshi's literal rags to riches story is very indicative of the state of Japan during the Sengoku period - a land where a peasant could, by cunning and opportunity, become the most powerful warlord in history.

While Ieyasu was fighting battles and negotiating over Nobunaga's provinces, now up for grabs after his death, a different kind of battle was waging between Hideyoshi and Shibata Katsuie, another of Nobunaga's celebrated generals - for control of Japan. While the most powerful daimyo hastily aligned with whichever man they thought more likely to win, Ieyasu showed more of his famous caution; he aligned himself with nobody. Ultimately, Hideyoshi defeated Katsuie at the Battle of Shizugatake and with it became the most powerful daimyo, and, for all intents and purposes, the most powerful man in Japan.

Ieyasu was a careful man; it was his caution and patience that had led to his current success, but in 1584, that all changed. Ieyasu allied with Oda Nobukatsu, the heir of his old friend and comrade Nobunaga, against Hideyoshi. Whether this was through loyalty or ambition, this move was one of the most dangerous he had ever made, and for it he faced the wrath of Hideyoshi. The two powerful daimyo clashed repeatedly in a series of battles

known as the Komaki Campaign. For months the two powerhouses fought, with neither gaining an advantage, and ultimately Hideyoshi used negotiation to settle the conflict. He made peace with Nobukatsu, then extended a truce to Ieyasu. Ieyasu, also likely tired of the endless conflict, agreed under certain terms: first, his second son became Hideyoshi's adopted son, and second, the Tokugawa clan were granted certain privileges, one of which in particular would prove vital to Ieyasu in the wars to come. Ieyasu ensured that his men would not have to fight for Hideyoshi's army. So while Hideyoshi waged successful invasion after invasion, Ieyasu did what he did best. He waited.

By 1590, there was only one independent daimyo remaining - Hōjō Ujimasa. Despite Hideyoshi's demands to submit to him, Hojo repeatedly refused. War was inevitable and finally, Ieyasu joined Hideyoshi in battle. The leader offered Ieyasu a deal: he would give him the eight provinces of Kanto they planned to take from Hojo in return for the five Ieyasu already owned. Ieyasu accepted. This was an incredibly risky move as it meant abandoning his home provinces and moving to the Kanto region. As Hideyoshi expected, the Hojo fell, the leaders committed seppuku, and Ieyasu took control of the Hojo provinces. This region was full of samurai families who had been loyal to the Hojo



# SAMURAI ARMS AND ARMOUR

How Japan's most fearsome warriors dressed for battle



## Mempo

The samurai would don various types of facial armour. Not only did this secure the helmet, but the ugly features painted on were intended to frighten the enemy.

## Kabuto

The helmet played a symbolic role for the samurai and the headgear worn was very elaborate and complex. Often the helmets would bear crests representing their family or even animals and mythical beings.

## Kusari

Also known in the west as mail armour, Japan boasted a huge number of varieties of kusari. It was phased out in favour of more portable armour.

## Tosei dou (dō) gusoku

Also known as 'modern armours' some chest armour comprised iron plates. These protective pieces were introduced after firearms found a place in Japanese warfare.

## Katana

The symbol of the samurai, the katana blade design remained constant and was used in Japan for hundreds of years.

for hundreds of years, and an uprising against their new master was a very real risk.

However, Ieyasu used his skills in diplomacy to turn his enemy's men into his own. He pacified the samurai, improved the economic infrastructure of the regions and generally improved life for everyone there. One of the major advantages of this new region was likely not considered by Hideyoshi when he offered it to Ieyasu: Kanto was isolated from the rest of Hideyoshi's Japan, and in it Ieyasu could enjoy relative autonomy. In just a few years, Ieyasu rose to become the second most powerful daimyo in all of Japan. This clever move of separating himself inspired a famous Japanese proverb: "Ieyasu won the Empire by retreating."

By 1592, Hideyoshi had set his sights beyond Japan. His ultimate aim was to invade China, but as a prelude he first had to attack Korea. The campaign waged on and off from 1592 to 1598 and ended in the ultimate withdrawal of Japanese troops. By managing to avoid engaging in this conflict, Ieyasu prevented any heavy losses to his numbers, and while Hideyoshi was away, Ieyasu's vassals and sons gradually built up greater control over Japan.

Shortly after his campaign, Hideyoshi began to suffer ill health. Fearing the end was near, and his only heir a five-year-old boy, Hideyori, Hideyoshi called an emergency meeting to choose a Council of Five Elders to rule in his son's stead. Ieyasu was an obvious choice, and of the five regents selected, he was by far the most influential. All five men promised to stand by Hideyori and protect Toyotomi's legacy - and thus the man who had gone from sandal bearer to 'great unifier' died.

Although the council was a noble idea, in reality there was little hope of it working. Suspicion





## IEYASU'S LEGACY

The cunning and patient warrior's greatest achievement was the dynasty he left behind

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Ieyasu reigned as shogun for only two years, however, his work was far from finished. He took on the role of retired shogun, or *ogoshi*, and effectively led Japan until his death. It was a clever move that got him out of ceremonial duties he was disinterested in, and ensured his son's succession went off without a hitch. As *ogoshi*, he supervised the monumental building project of Edo Castle, which would become the largest in all of Japan. Likely distrustful of the Western daimyo after his own experiences, he essentially stripped them of their power by forcing them to sign an oath of fealty to him that placed them under very strict supervision. The last thing he wanted was his country erupting into war once more and, of course, his heirs losing power.

Ieyasu also focused on encouraging Japan's foreign relations, especially with the Netherlands, Spain and the United Kingdom, exchanging gifts with many foreign leaders, including James VI and I. Outliving all his rivals, Ieyasu passed away in 1616, aged 73, likely due to cancer or syphilis. He was deified with the name *Tōshō Daigongen*, which means 'Great Gongen, Light of the East', essentially naming him immortally as a god. The location of his remains is somewhat a mystery to this day, with Nikkō Shrine and Gongen's mausoleum both claiming to be the shogun's final resting place. The dynasty Ieyasu created was very strong. The daimyo, like most of the country, were weary with war, and relative peace was enjoyed for the following 200 years. However, this peace came at a price. Under Ieyasu's heirs, society became strictly regulated with defined classes, effectively eliminating the freedom that had allowed so many in the Sengoku era to rise to the top.



The reign of the last Tokugawa leader, Tokugawa Yoshinobu, ended in 1913



Ieyasu was capable of great loyalty, but he also held grudges for years, reportedly executing a man who insulted him as a boy

reigned between the distrustful clans almost as soon as Hideyoshi died. Ieyasu had no intention of helping Hideyoshi's son to power, and over the next two years made alliances with many daimyo who also secretly opposed Hideyoshi. Ieyasu decided to make his allegiances public and set his sights on Osaka Castle, the residence of Hideyori. The invasion of the castle and disregard for Hideyoshi's final wishes infuriated the other regents and war between them became inevitable. The man who had waited finally stepped into the spotlight. Ieyasu had been planning for this moment his entire life, and failure was not an option.

Ieyasu's main opposition came from Ishida Mitsunari, who, while not one of Hideyori's regents, had been driven by his own ambition to scheme an assassination plot against Ieyasu. This ultimately failed, as Ieyasu's generals heard of the plot and Ishida fled. However, the direction he ran was somewhat surprising - straight to Ieyasu himself. With his hands on his most staunch opponent, Ieyasu knew that slaying him would be the easiest move, but instead he protected Ishida. We do not know the exact reason why the master strategist took this action, but it is likely he thought it better to have an enemy he knew than risk one of the regents taking up Ishida's cause, figures with far more legitimacy to mount an opposition.

Despite being saved by Ieyasu, Ishida still gathered his forces, and Japan was split in two. The Western army supported Mitsunari, and the Eastern army did not. Ieyasu joined the Eastern group along with many powerful and influential allies. The three remaining regents (one had died in 1599) opposed Ieyasu, and the battle to decide the future ruler of Japan began. On 21 October 1600,

160,000 men from the most powerful clans faced each other in the muddy fields of Sekigahara. With their forces and numbers near enough matched, the victory could be taken by anybody, however, before a shot was fired, Ieyasu had already sharpened his blade. He negotiated with many daimyo on the opposing side and negotiated their defection. This scheming and diplomacy saw the Battle of Sekigahara end in a devastating Tokugawa victory. With his enemies captured, killed and stripped of their power, nothing stood in Ieyasu's way and at last he became the de-facto ruler of Japan.

Despite fighting (and waiting) for so long to claim power, Ieyasu ruled as shogun for only two years. While this may seem a weak or anti-climactic conclusion, like every aspect of and decision in his life, Ieyasu had a plan. His reign did not end with his death, but with his retirement. Nobunaga and Hideyoshi's legacies had both been toppled because they left weak, ineffectual heirs. Ieyasu ensured his descendants would continue to rule by retiring and giving his title to his adult son. His son already possessed a glittering military record and Ieyasu's early retirement ensured nobody would rise against him after his death. Before he did, however, he had one final thorn to pluck: Hideyori. The dethroned heir had been holed up in Osaka Castle for years, and despite Ieyasu's demands, refused to emerge. The young daimyo had gained a following, and Ieyasu couldn't allow anything to remain that may overthrow his legacy. Ieyasu sent his army to siege the castle twice. In 1615, Osaka Castle finally fell and Hideyori, his mother and his son were all slain. Ieyasu had cut the final threads of the Toyotomi line and, by doing so, secured the supremacy of him and his kin for the next 200 years.





# 'IN A DIFFERENT 1990'



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- In Norway, the SAS mounts a daring commando raid on a Soviet held airbase.
- In Germany, the British Army of the Rhine fights a massive armoured battle.

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- As the Army of the Danube assembles, the United States gathers a massive fleet in the Pacific.
- Meanwhile the struggle between the hawks and the doves reaches critical mass and Gorbachev moves to take control.

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# *Bluffer's Guide* FRANCE, 3-30 MAY 1968

# May 1968 Paris Protests

## *Did you know?*

In the June 1968 elections, de Gaulle's party won 353 of 486 seats - the largest majority in French parliamentary history

## Timeline

22 MARCH



300 students, led by Daniel Cohn-Bendit, occupy the admin block at Nanterre University, Paris, protesting about international politics and student overcrowding.

3 MAY



When the ringleaders are threatened with expulsion, a demonstration is held at the Sorbonne to support them. The police make 400 arrests.

10 MAY



Large numbers of students attempt to break through the police cordon surrounding the Sorbonne. Cars are overturned and cobblestones thrown.

13 MAY



Trade unions call a one-day strike, but this turns into an unofficial, indefinite, wildcat strike - the largest labour stoppage in French History.





### What was it?

Over the course of three weeks in May 1968, student demonstrations and wildcat workers' strikes brought the country to the brink of a full-scale revolution. At their height, two-thirds of the French workforce were on strike and the economy was at a standstill. On 29 May, the French statesman Charles de Gaulle suddenly left his residence, the Élysée Palace. He told his son-in-law, "I have decided to leave: nobody attacks an empty palace."

For six hours, neither the country nor the government knew where their president was. Most assumed he had fled the country and would announce his resignation that day. But he had actually flown to a French military base in Baden-Baden, Germany, for a secret meeting. His disappearance had the unintended side-effect of reminding the moderate French majority what they stood to lose in a revolution. When de Gaulle returned with the support of the army, and promised general pay rises and elections in a national broadcast, the tide of public sympathy swung back in the government's favour.



### Why did it happen?

In 1968, sexual revolutions in the USA and Britain were already in full swing, but France was still strongly Catholic and conservative. University student numbers had almost tripled over the decade, and student accommodation was uncomfortably overcrowded. At Nanterre University in Paris, students, like French-born German sociology student Daniel Cohn-Bendit, organised several demonstrations, protesting against capitalism and demanding that students be allowed to sleep together. When he and other ringleaders were threatened with expulsion, this led to wider student demonstrations across Paris, which in turn provided a catalyst for a general workers' strike. The strikes were mostly for better pay and conditions - quite different from the vague and ideological demands of the students - and yet the mass demonstrations fed into each other and quickly spread across the country. Students clashed violently with the riot police and pay deals negotiated by trade unions were dismissed by the workers.



### Who was involved?

#### Daniel Cohn-Bendit

1945-present

Known as 'Danny the Red' for his hair and left-wing politics, his protests in March 1968 sparked the May uprising.



#### Charles de Gaulle

1890-1970

The French president was a hero of two world wars but seen by the majority as conservative and too anti-American.



#### Maurice Grimaud

1913-2009

Paris's chief of police, his restrained handling of the protests avoided bloodshed that could have sparked a revolution.



24 MAY



Demonstrations spread to other French cities. Protestors attempt to burn down the Paris stock exchange. Cohn-Bendit is expelled from France.

30 MAY



De Gaulle supporters mount a huge counter-demonstration, blocking the Avenue des Champs Élysées. De Gaulle calls elections, winning a landslide victory the following month.





# John Wilmot 2nd Earl of Rochester

London's original libertine embodied the drunken, debauched heart of Charles II's court

Written by Tim Williamson

A small, solemn bonfire crackled in the grounds of the Rochester estate, fed by a ring of servants, each laden with a bundle of manuscripts, letters, and sketches. From his bedchamber, the author of the work, John Wilmot, 2nd Earl of Rochester, could spy the rising smoke of the flames, which he hoped would purge the devilish, blasphemous side of himself. Lying on his deathbed, his body utterly crippled by years of the libertine lifestyle, he now penitently prayed to save his soul.

As an artist and a man, Rochester embodied and embraced all the facets of the Restoration period. His writing reflected the erotic, explicit and outrageous habits of Charles II's court, though accounts of his exploits in London's alehouses and brothels garnered no less fame. He was a man of his times, and the chief reveller in the decades-long celebration following the fall of the Commonwealth.

Born in the middle of the chaotic English Civil War, it wasn't long before John was forced to flee his home. His mother and father, like many royalist sympathisers, were driven into exile shortly after Charles I's execution in 1649. The family joined the English court in residence at the Louvre, in Paris, with Charles I's queen, Henrietta Maria. John's father, Lord Henry Wilmot, travelled alongside Charles II throughout his campaigns, and helped in his struggle

to regain the English crown. For his loyalty and service, Henry was created Earl of Rochester in 1652. This title then passed to the ten-year-old John in 1658, after his father died while travelling in Ghent.

In 1660, Charles II was restored to the throne of England, and those who had remained loyal to him during his exile were richly rewarded. That year, the young Earl of Rochester entered into Wadham College, Oxford, where he both began his literary education and had his first brush with debauchery. From 1660 onwards, the harsh, Puritan restraints of the previous regime were being swiftly washed away with wine, and those who stood to gain most from the king's return revelled in their turn of fortunes - the young Rochester was no exception.

After graduating from Oxford, the earl went on his Grand Tour of Europe, which by this time was a tradition for young aristocrats - all the trip's expenses were paid for by Charles II. The king had taken a particular interest in the earl, remembering how his father, Henry, had been so loyal to the Stuart cause. For three years Rochester travelled through France and Italy, along with two servants and a tutor intent on keeping his interests focused on the academic and the enlightening, to complete his education.

On returning to England in 1664, the earl's charming appearance and fierce wit instantly made him a popular figure at Charles II's court. Continuing

## Defining moment

### Marriage to Lady Mallet

After nearly two years of courtship, Rochester married the heiress Elizabeth Mallet. In 1665, he had staged an elaborate kidnapping of the young girl, though he remained just one of many suitors she was considering. As well as bringing with her a small fortune of £2,500 per year, Elizabeth also provided Rochester with several children, though their son Charles died young.

29 January 1667





*Hero or Villain?*  
JOHN WILMOT, 2ND EARL OF ROCHESTER





## Hero or Villain?

### JOHN WILMOT, 2ND EARL OF ROCHESTER

The charlatan doctor from Marcellus Laroon's series of engravings *Cries Of London* gives us an idea of what Doctor Bendo could have looked like



#### Defining moment

##### Reinvention as Dr Bendo

After the tragedy of his companion's death during an incident at Epsom, Rochester went into hiding, and it was at this time that he took up the guise of a quack doctor named Alexander Bendo, plying his 'trade' on a stage in Tower Street, London. For months, Rochester as Bendo performed to the crowds, selling remedies and diagnoses, as well as reading horoscopes and star signs.

1676



Charles II returned to England in 1660, restoring the Stuart dynasty to the throne

to dote on his favourite, the king even arranged a prestigious marriage match for Rochester, suggesting the Lady Elizabeth Mallet, a young heiress from Yorkshire with a number of eager suitors in London. Unwilling to patiently compete for her affection, in May 1665, Rochester instead staged an elaborate kidnapping of Mallet and eloped with her. In his diary, Samuel Pepys wrote of how Mallet, "...was going home to her lodgings with her grandfather, my Lord Haly, by coach; and was at Charing Cross seized on by both horse and foot men, and forcibly taken from him, and put into a coach with six horses." Rochester was imprisoned in the Tower of London for this stunt, and was only released after ardent pleading and contrition.

However, this would only be the first of several scandals Rochester would become embroiled in, occasionally incurring Charles's wrath and a spell of banishment from court. In the hedonistic blur of the Restoration court, the king led by example, keeping several mistresses and drinking to excess, encouraging his courtiers to do likewise. Rochester's charisma, as well as his substantial capacity for drink, made him very popular. Already an accomplished writer, he circulated his lines around court, many lampooning the king himself, often to Charles's amusement, but sometimes to his adulation. Among

the most famous of his parodying lines are in the following couplets:

**"God bless our good  
and gracious king,  
Whose promise none  
relies on. Who never  
said a foolish thing, Nor  
ever did a wise one."**

At Christmas 1673, while entertaining foreign dignitaries, the king boasted of Rochester's witty poetry and asked the earl to hand him a manuscript in order to entertain his guests. Rather than handing over the lines the king had requested, Rochester (perhaps accidentally, perhaps intentionally) handed over a scathing satire on Charles himself. *A Satyr On Charles II* mocks the king's debauched life, and several references are made to his consequent inability to rule. The king's "scepter" of power is easily swayed by lust, Rochester writes, and he, "...

rolls about from whore to whore, A merry monarch, scandalous and poor." Rochester's biting poem ends with: "All monarchs I hate, and the thrones they sit on, From the hector of France to the cully (fool) of Britain." For this disgrace, Rochester was banished from court yet again, only to return a few months later after more heartfelt contrition.

When not causing havoc in the royal palaces, the earl was engrossed in the capital's thriving playhouses. Re-opened after the suppressive Puritan years, London's theatres were thriving once again with everyone from commoner to nobility flocking to catch the latest play by John Dryden, Thomas Killigrew or William Davenant - all close friends and bitter enemies of Rochester's at one time or another. Restoration theatre is today most notable for seeing the first female stage actors in England - prior to this all the female roles had been played by men or boys. For his part, Rochester took a particular interest in one of the first female stars of the stage, Elizabeth Barry, who he made his protégée as well as his mistress in around 1675, when she was aged just 17. Though their affair did produce at least one daughter, Elizabeth Clerke, it was fraught by Rochester's occasional return trips to Oxfordshire and his wife, as well as his otherwise chaotic lifestyle. He once admitted to a confidant that for five years, "...he



## Hero or Villain? JOHN WILMOT, 2ND EARL OF ROCHESTER



Elizabeth Barry's acting ability brought, "...success to plays that would disgust the most patient reader"

was continually drunk and not perfectly master of himself," and as his drinking went uninterrupted, so too did his increasingly reckless stunts. Staggering through the palace gardens after one particularly lengthy drinking session, the earl and his companions came across a rare glass chronometer with a reportedly phallic shape. "What! Dost thou stand here to f\*\*\* time?" Rochester bellowed, toppling the fragile device to the floor.

Another night in 1676, at Epsom, provided scandal of a far more serious nature. Well laced with wine and ale, Rochester and his companions were loudly harassing a band of fiddlers who refused to play for them. Upon hearing the commotion, a local confronted the group, before they, "...seized upon him, and, to free himself from them, he offered to carry them to the handsomest woman in Epsom, and directed them to the constable's house, who demanding what they came for, they told him

a whore, and, he refusing to let them in, they broke open his doores and... beate him very severely." In the midst of the fray, one of Rochester's companions, a young army officer, was killed by a watchman's pike.

In many ways this final outrage was a turning point in Rochester's fortunes.

Soon after the incident at Epsom he was once again exiled

from court, and went into hiding, disguising himself as a quack doctor named Alexander Bendo. In this elaborate deception, Rochester, as Bendo, set up a stage on Tower Street, prescribing pseudo cures for all types of common ailments to the public. The operation was at the same time a brilliantly executed piece of theatre and a perverse prank on an unwitting

audience, as Bendo performed all manner of miracle cures in the street, captivating his crowd in a thick Italian accent garbled through a fake beard.

By the time he reached his early 30s, Rochester's health was fading fast. As well as the corrosive

physical effects of a long, steady alcohol addiction, the earl was suffering from the effects of syphilis, the cure for which at the time was Mercury treatment. This dangerous substance had devastating effects on both the body and the mind, often sending patients mad after long exposures. It is this treatment that has been pointed to as a possible explanation for the earl's behaviour in the final months of his life.

Returning to his estate to rest in the summer of 1680, Rochester's health failed to improve and he lay on his deathbed in July that year. It was around this time that he ordered all his, "...profane and lewd writings... and all his obscene and filthy pictures, to be burned." Often delirious and rambling, he appealed to Gilbert Burnet, bishop of Salisbury, to read to him passages from the *Bible*. Then, later, in the presence of his family, he made a shocking deathbed conversion, repenting his former libertine behaviour: "From the bottom of my soul I detest and abhor the whole course of my former wicked life." John Wilmot died on the morning of 26 July, aged 33.

Was John Wilmot a hero or a villain? Let us know what you think

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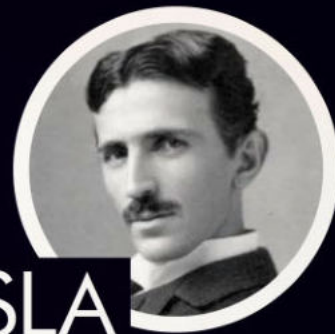
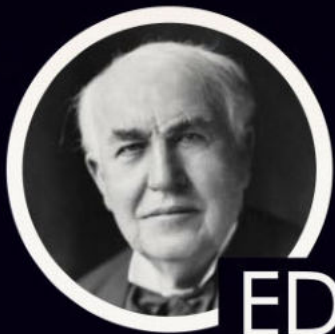
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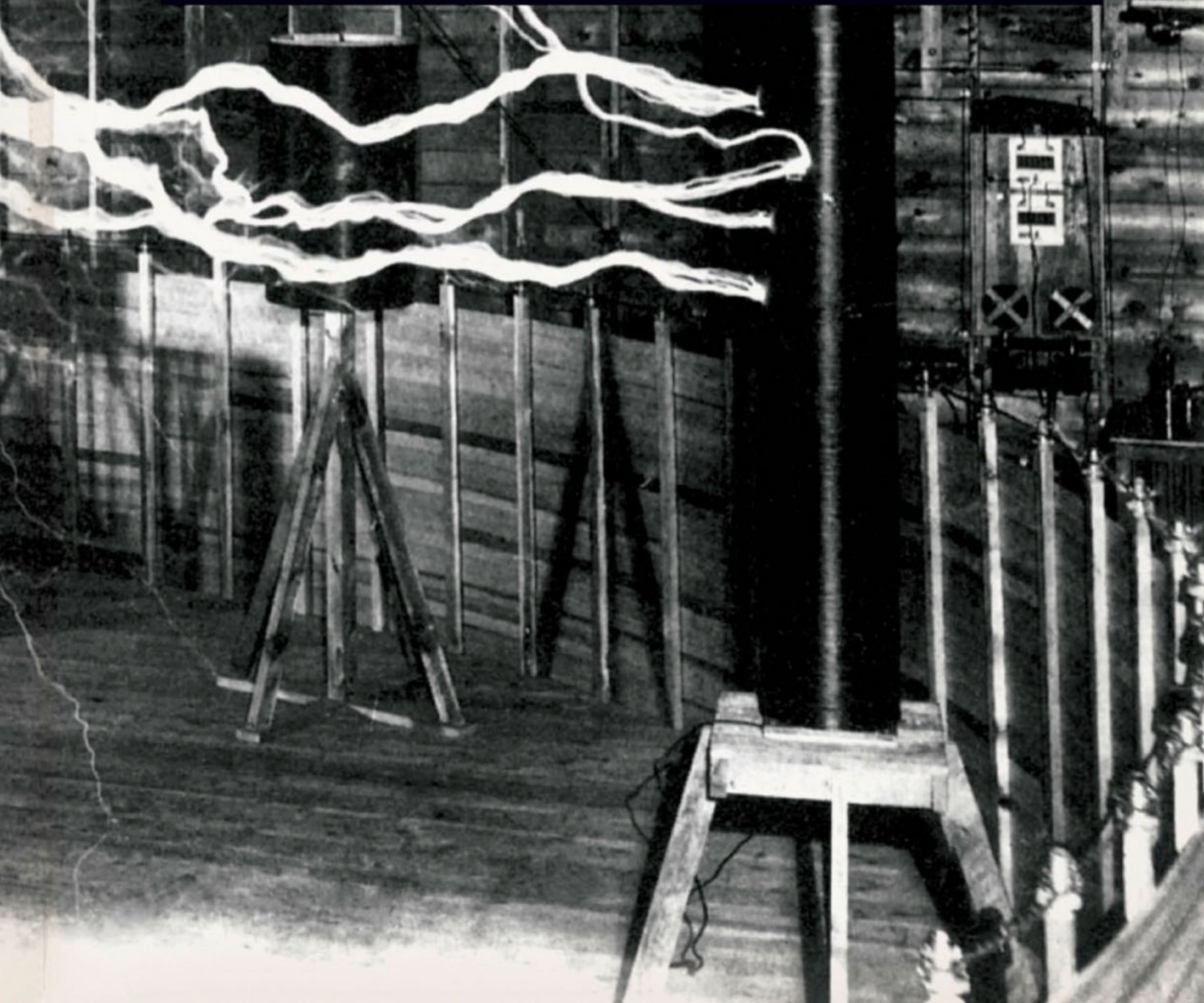




# EDISON **VS** TESLA WAR OF THE CURRENTS

Sparks flew when these two electricity heavyweights clashed over the future of energy in a feud that changed the world

Written by Laura Mears





The large dog trembled as it was led onto the stage. A black Newfoundland, muzzled, with electrodes trailing from his limbs - one at the front, another to the rear. The cage door creaked shut, and the crowd waited. Harold

P Brown thread the wires into a generator, and flipped the switch. The dog yelped and stiffened as Brown turned the dial. He increased the voltage until 1,000 volts of direct current were coursing through the animal's body. But when the switch was flipped again, the poor creature was still alive.

"We shall make him feel better," Brown announced, taking the wires and connecting them to a different generator at the front of the hall. This time, the prescribed dose was 300 volts of alternating current. The switch was flicked, the dog twitched and then it died. "Alternating current is suitable only for the dog pound, the slaughterhouse and the state prison," he declared, triumphantly.

The year was 1888. The War of Currents was under way, and the American inventor was trying to prove a point. The country needed electricity, but how it would be delivered was a matter of furious debate. At the centre of the furore were two of the greatest inventors of the time: Thomas Edison, pushing direct current, and Nikola Tesla, advocating for alternating current.

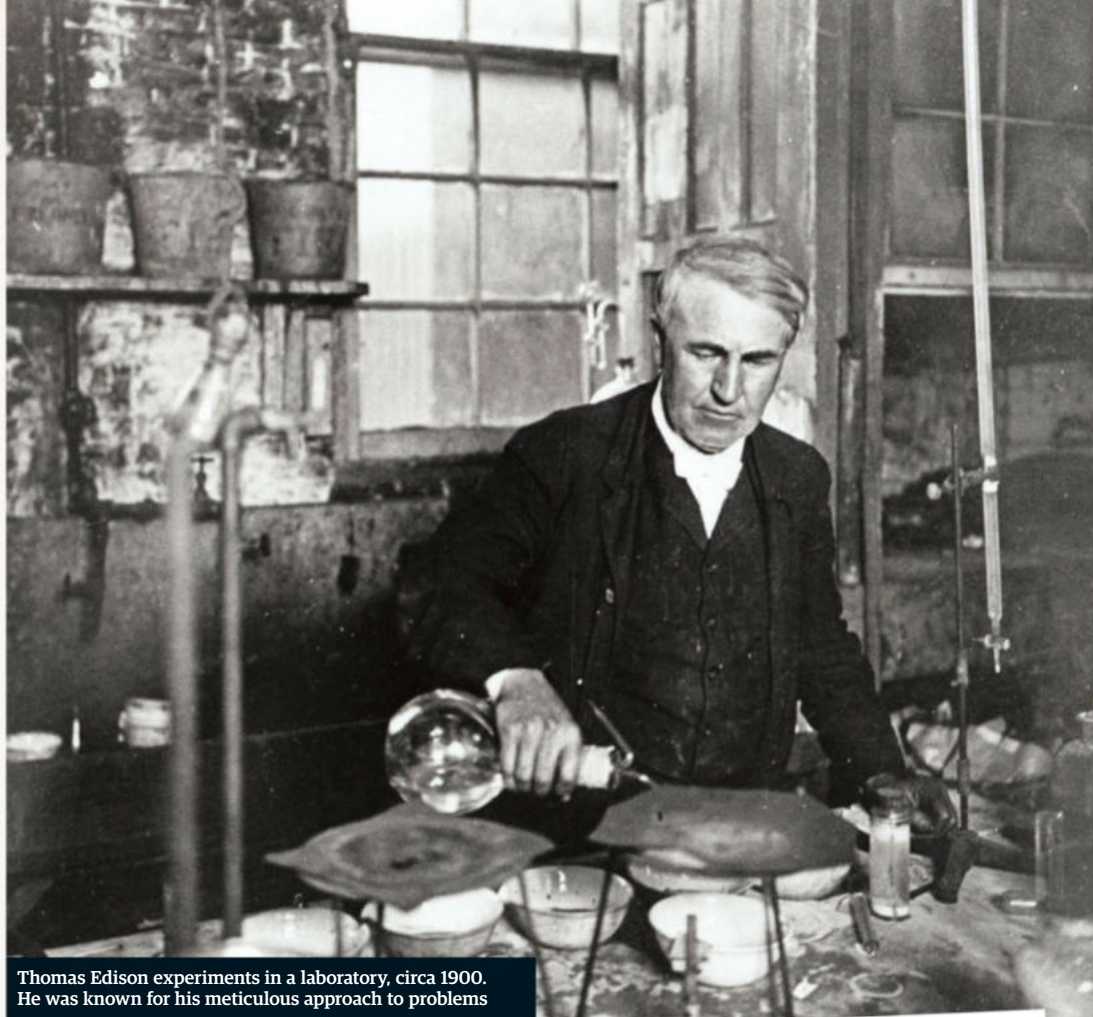
## "AS PANIC INTENSIFIED, EDISON STARTED TO SPEAK UP, LAYING THE BLAME FOR THE DEATHS FIRMLY AT HIS RIVAL'S DOOR"

Edison was an American inventor and entrepreneur. He had begun his career in electricity, rising from lowly beginnings as a telegraph operator to become the esteemed inventor of the commercial light bulb and the phonograph. He was meticulous, methodical, and had a head for business, and the Edison Electric Light Company was supplying the current that lit homes around the United States of America.

His entire empire was built upon direct current - electricity flowing in one direction - and his company had been working to roll out their generators to supply the nation with the juice that they needed to keep the lights on and the music playing. But Nikola Tesla had a different idea.

The Serbian inventor had arrived in the USA in 1884, and was originally employed by Edison himself. He worked at Edison Machine Works for the princely sum of \$18 a week, and under the instruction of the master inventor, was charged with finding a better way to transmit electricity over long distances.

People needed about 100 volts to power their electric lights at home, so Edison's electricity was delivered at this fixed value in thick copper cables. But, as electricity courses through wires, some of the energy escapes. This meant building lots of small generators close to people's houses so that power wasn't lost along the way - a costly and inconvenient solution.



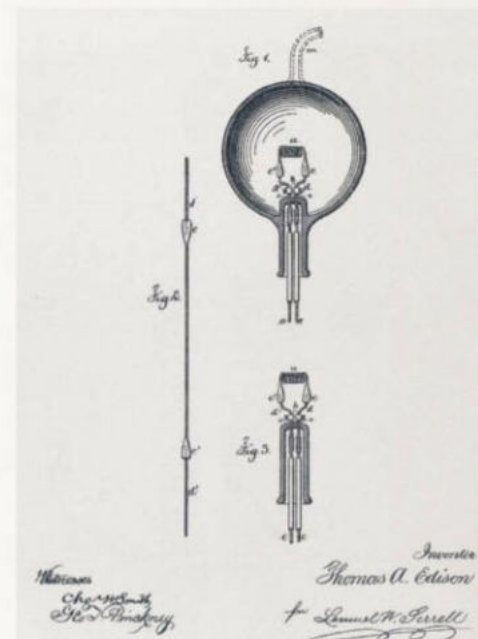
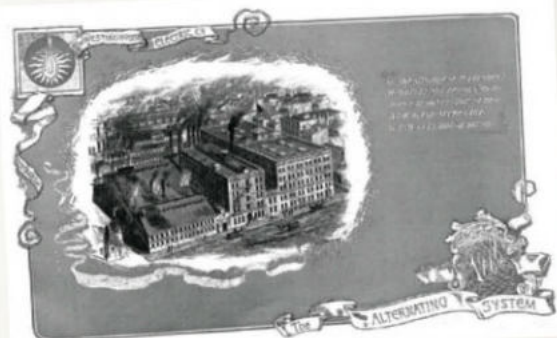
Thomas Edison experiments in a laboratory, circa 1900. He was known for his meticulous approach to problems

Tesla's big idea was to use alternating current on the lines. Instead of travelling just one way, it flipped back and forth, changing direction several times a second. This creates varying magnetic fields, which can be used to create transformers. These devices can be used to increase or decrease the voltage on demand. The thought was that electricity would travel over long distances at high voltage, and would then be decreased to a lower voltage when it reached people's homes. This wasn't possible with direct current.

Edison was less than impressed. A practical man, he thought Tesla was a dreamer, and a 'poet of science'. "His ideas are magnificent, but utterly impractical," he said.

In Edison's mind, alternating current was dangerous. It flipped back and forth in such a way that it could interfere with the heart, and high-voltage power lines were just unthinkable. Besides, Edison was a prolific inventor, with more than 1,000 patented inventions in the US alone. People wouldn't use his inventions if alternating current was adopted. He refused to support Tesla's ideas, offered him a \$7-a-week pay rise for his trouble, and his apprentice walked out of the door.

So annoyed was Tesla at Edison's lack of foresight that he set out to bring his alternating current inventions to the USA on his own. After a good start, he fell upon hard times, and with barely enough

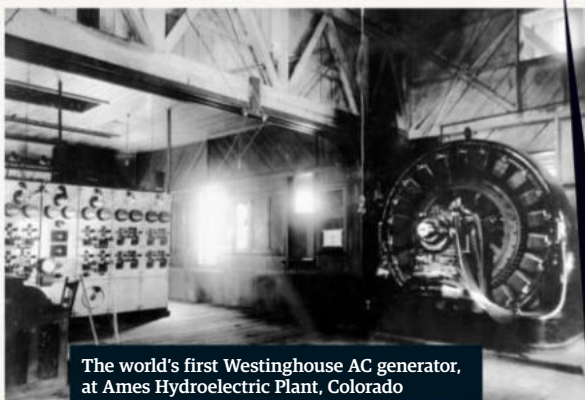


Edison's commercial light bulbs were one of his greatest achievements



# EDISON'S WEIRDEST INVENTIONS

Thomas Edison was a prolific inventor, with hundreds of bizarre contraptions to his name



The world's first Westinghouse AC generator, at Ames Hydroelectric Plant, Colorado



The World's Columbian Exposition, lit by Tesla's alternating current in 1893

money to live, he took a job as a manual labourer, earning just a few dollars a week digging ditches. Eventually, he got the funds together to set up the Tesla Electric Company.

His innovative ideas caught the attention of railway tycoon George Westinghouse. Fat on the profits of a booming transport business, Westinghouse was ready for a new challenge, and taking on the United States' emerging electricity giants seemed like just the thing. He'd dabbled in alternating current before, and Tesla's inventions were exciting.

A year before the public execution of the unwitting Newfoundland, Tesla had filed seven patents to protect a slew of new ideas. He had come up with a complete power system, designed not only to generate electricity but also to carry it over long distances, increase or decrease the voltage, and he had even created motors and lights that could be used at the other end.

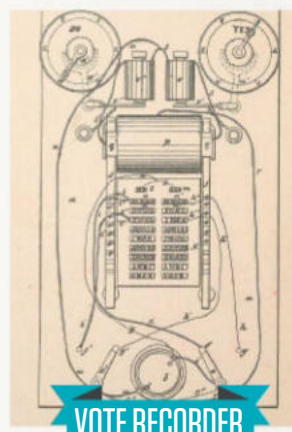
Tesla was no businessman, he was a pure inventor, but Westinghouse was the Steve Jobs to his Steve Wozniak, and he took Tesla's ideas and spun them into a business that could take Edison down. Tesla sold his patents to Westinghouse for \$60,000, taking \$10,000 in cash, 150 shares, and an agreement that he'd make \$2.50 for every horsepower of electricity that Westinghouse managed to sell. This was the beginning.

Westinghouse Electric began setting up generators across the US, reaching into areas that Edison's generators couldn't access, and undercutting them in inner cities to poach their customers. The price of copper was going up, Edison's business was under threat, and to top it off, his inventions were being ripped off by his competitors. "Westinghouse will



DOLL VOICES

The inventor miniaturised his famous phonograph, encased it in tin, and put it inside a doll to create a voice box. The sound quality was poor, and the resulting noises reportedly frightened customers.



VOTE RECORDER

Edison's first invention was designed to count votes. Voters flicked a switch to indicate their choice, and an electrical current travelled to a machine, which recorded 'yes' or 'no' on dials.



MICROSCOPIC VIDEO

'Peephole kinetoscopes' combined light bulbs with photographs to create moving pictures, viewed through a microscope. The four-foot high contraptions only allowed one person to watch at a time.

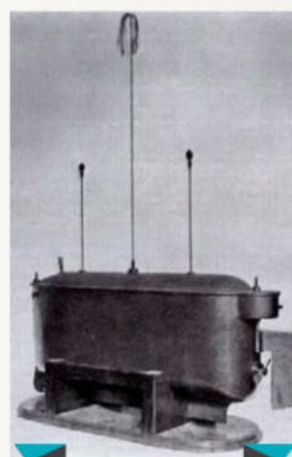
# TESLA'S STRANGEST IDEAS

Nikola Tesla was a big thinker, with ideas extending way beyond his time



LONG-RANGE WIRELESS POWER

Tesla thought he could transmit electrical power wirelessly from Wardencliff Tower in Long Island. But he ran out of money, and the project was abandoned.



ROBOTIC WORKFORCE

With aspirations to create labour-saving robots that would do menial tasks for humans, Tesla developed a remote-controlled boat. However, his robot race has yet to be realised.



DEATH RAY

The inventor is reported to have designed a 'death ray' that created a beam of particles that could bring down aircraft. His papers on it have never been found.



kill a customer within six months after he puts in a system of any size," Edison fumed.

In 1888, his company issued a written warning to journalists detailing the dangers of alternating current, and his associate, Harold P Brown, began his awful public campaign of animal electrocutions. After the incident with the dog, he took his twisted show on tour around New York City, dispatching stray animals in front of the horrified eyes of journalists and denouncing alternating current as a menace to public safety.

Westinghouse was enraged, and wrote a letter to Edison berating him for the actions of his associates. "I believe there has been a systemic attempt on the part of some people to do a great deal of mischief and create as great a difference as possible between the Edison Company and The Westinghouse Electric Co." Tesla also retaliated, setting up public demonstrations of his own in which he let 250,000 volts of alternating current course through his body to the astonishment of onlooking crowds. As the saying goes, "It's the volts that jolts, but the mills that kills." Tesla was sure of his technology, even if Edison wasn't.

Relations deteriorated, and the public rivalry escalated. In 1889, the 'electric wire panic' began. Several linemen working on alternating current power cables had died in the line of duty, prompting widespread public anxiety about the installation of these high-voltage lines. The deaths added fuel to Edison's fury about the safety of Tesla's technology. Until this point, he'd remained behind the scenes, allowing Brown and the Edison Electric Light Company to take the lead in the campaign against Westinghouse, but as panic intensified, Edison started to speak up, laying the blame for the deaths firmly at his rival's door.

Things were about to get worse. William Kemmler was a peddler from Buffalo, New York. A heavy drinker, and a bully, he had killed his partner with a hatchet in a fit of rage, and in 1890, he was awaiting execution. Edison had been approached to advise on a more humane method of dispatching criminals after a spate of failed

hangings, and although opposed to the death penalty in principle, he had eventually responded with a recommendation. So sure was he about the dangers of alternating current that he suggested a Westinghouse generator.

Westinghouse fiercely opposed the idea. He thought it was unnecessarily cruel, and instructed his lawyers to mount an appeal for Kemmler's life, putting \$100,000 behind the cause. The moniker 'executioner's current' was not one he wanted attached to his company. Edison responded by accusing Westinghouse of prioritising his commercial reputation over the welfare of the convict, arguing that alternating current would be a swift and effective method of execution.

Behind his competitor's back, Edison's company helped Brown to source second-hand Westinghouse motors to supply the electric chair, but the execution didn't go to plan. When Kemmler was strapped into the device, 1,300 volts were passed over his body. The ordeal lasted 17 seconds, but he didn't succumb. The audience screamed as he started to regain consciousness and his clothes caught fire. Only when the device was ramped up to 2,000, and left to run for four minutes, did his body finally concede to the assault. It was a grisly demonstration. "They would have done better using an axe," observed Westinghouse.

The ugly back and forth between the two electricity giants continued, until in 1893, a grand occasion presented the opportunity to end the feud once and for all. But by that point, Edison had dropped out of the race.

Merger after merger had whittled the competing electricity companies down, and Edison's firm had been swallowed by Thomson-Houston to form General Electric. With it went his patents and his stake in the competition. The event to end all events went ahead in his absence, and was the final nail in the coffin of his direct current empire.

The World's Columbian Exposition would be held to honour the 400th anniversary of Christopher Columbus's arrival in America. The event expected 27 million guests, and it needed to be lit. General Electric put in a bid to power the fair for \$554,000,



## DUELLING SCIENTISTS

Edison and Tesla aren't the only scientists to have clashed. Bitter rivalries have raged throughout history



These two scientific heavyweights knocked heads in the 1600s. Hooke was convinced that the planets were attracted to the Sun, but it was Newton who published the mathematical proofs for gravity. Hooke wanted credit for the idea, but Newton was having none of it

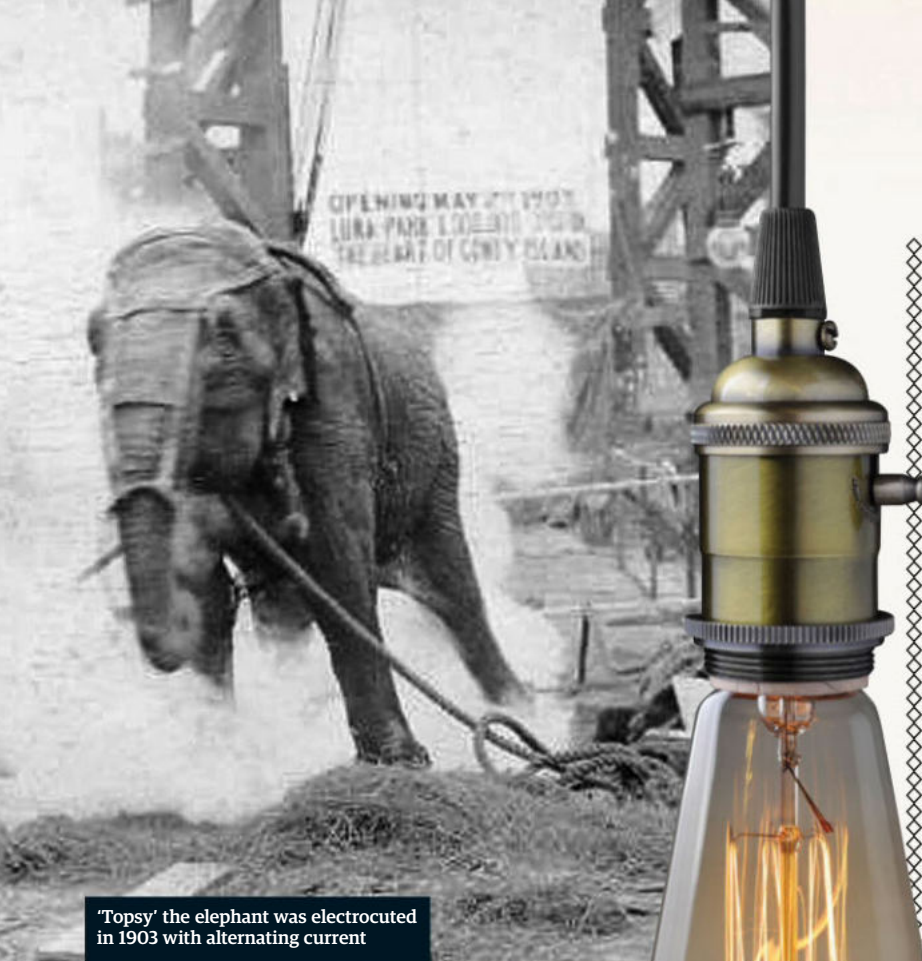


Watson and Crick are credited with the discovery of the structure of DNA, but the groundwork was done by Maurice Wilkins and Rosalind Franklin. Wilkins was furious when he found out that images taken in his lab were being used by the pair in Cambridge.



These great bacteriologists both worked on anthrax - Koch was a doctor, and Pasteur a chemist. Koch didn't believe that pathogens could be weakened, and the two entered into a very public war of words as Pasteur sought to prove that they could.





'Topsy' the elephant was electrocuted in 1903 with alternating current

but Westinghouse undercut them, promising to keep the lights on for just \$399,000. General Electric would need mountains of copper wire to transmit enough power, but Tesla's alternating current allowed Westinghouse to offer the same at a fraction of the cost.

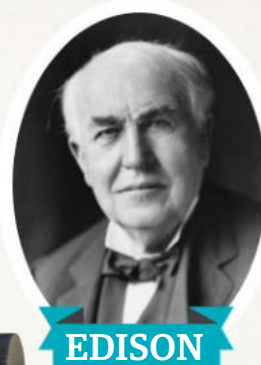
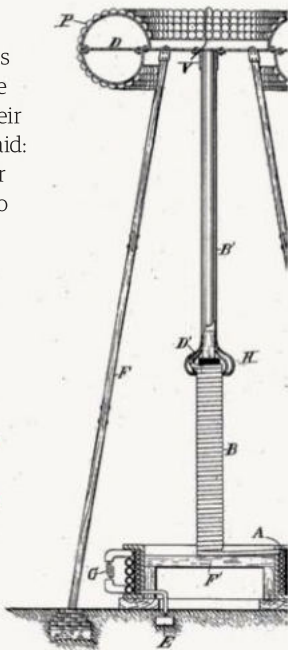
The exposition glowed, and the requests for alternating current snowballed. Westinghouse was given much-coveted access to Niagara Falls to use the torrents of water to generate hydroelectric power, and even General Electric switched to using alternating current. The war was over, and Tesla's side had won.

Edison is often portrayed as the villain of the story, but the war was taken out of the scientists' hands. Their ideas and approaches were very different, but the real, dreadful conflict was the commercial battle waged by George Westinghouse, Harold P Brown, and the leadership of the competing electricity companies.

Later, Edison went to see Tesla speak, and when his former apprentice noticed him, he asked the audience to give the great man a round of applause. Despite their differences, Tesla greatly admired Edison, and later said: "The effect that Edison produced upon me was rather extraordinary. I saw how this extraordinary man, who had had no training at all, did it all on his own."



Charles Darwin had been working on his theory of evolution for years, but in 1858, he received a life-changing letter from a colleague, Alfred Russel Wallace. He'd come up with the same idea, and Darwin had to race to beat him to publication.



EDISON

## GENIUS

### DC

DIRECT CURRENT

# 2,332

COMMERCIAL  
LIGHT BULB

"IF YOU WANT  
TO SUCCEED,  
GET SOME  
ENEMIES"

AGED **22**  
DESIGNED A  
MACHINE TO  
COUNT VOTES

Today, most of our  
electrical equipment  
is powered by his  
direct current



TESLA

## GENIUS

### AC

ALTERNATING CURRENT

# 278

AC MOTOR

"IF YOUR HATE  
COULD BE TURNED  
INTO ELECTRICITY,  
IT WOULD LIGHT UP  
THE WHOLE WORLD"

AGED **26**  
DRAFTED PLANS  
FOR A ROTATING  
MAGNETIC FIELD

Wireless transmission,  
robotics and Radar  
all have their roots  
in Tesla's ideas

VS

CURRENT

PATENTS

GREATEST  
INVENTION

QUOTE

FIRST  
INVENTION

LEGACY



# Through History

# COSMETICS

From the deadly to the medicinal, make-up has been a staple of societies for centuries



Unguent jars have been found in tombs of the Ancient Egyptians

## THE FIRST ANTI-WRINKLE CREAM

10,000 BCE

With workers toiling under the harsh, hot desert sun, the Ancient Egyptians began to embrace unguent, a kind of oil that was akin to an anti-ageing cream under the penetrative rays. The oil kept skin soft, supple and crease-free, as well as acting as a barrier to prevent the skin from burning. Found jarred in tombs, early iterations of the ointment were generally unscented, but later versions introduced balmy fragrances for a more pleasing aroma.

## PALE SKIN

6TH CENTURY

For centuries pale skin has been viewed as the epitome of beauty – tanned, sun-kissed skin was a marker of outdoor labour; pale skin symbolised the luxury of leisure, with no need to work to survive. Over the centuries and across Europe, women embraced different ways to achieve the pallor that was so desired. During the 6th century, bleeding became a popular method of achieving a ghostly allure, though it came with a host of unpleasant side effects – namely bleeding to death.



Sun-kissed skin was synonymous with hard work, and so the fashion for pale skin thrived

## EYELINER

4000 BCE

Everyone, regardless of gender or status, wore eyeliner in Ancient Egypt. Combining a mix of natural and metal ingredients, the kohl was applied to resemble that of the eye of Horus, a symbol of protection, and it was thought that this would help to guard against general infection. Alongside eyeliner, Ancient Egyptians would wear a green shadow around the eyes made from powdered malachite (copper ore).



Ancient Egyptians applied eye make-up to protect them from infection

An advert from 1943 asks women to use polish sparingly during the war



## NAIL VARNISH

3000 BCE

Considered a symbol of Chinese wealth and nobility, rudimentary nail varnishes were very much an elite cosmetic. Made from a mixture of gum, beeswax and dyes, it took several hours to dry. The shade of polish denoted social status and power, with gold and silver favoured by the Zhou Dynasty. If a lower-class woman dared to copy, they could receive the death penalty. Polish as we know it today didn't arrive until the 1920s, when the creation of car paint led to the development of coloured lacquers.

## HAIR DYE

1800S

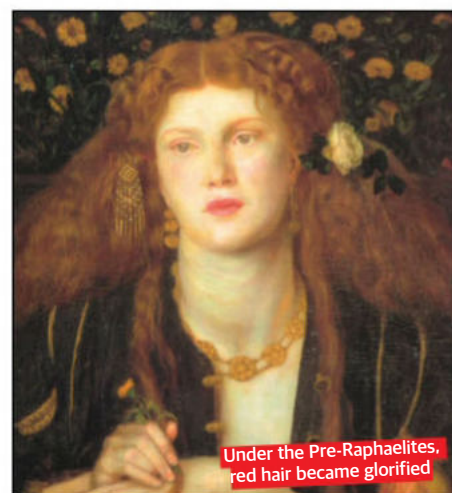
Henna has been used to decorate the body for millennia, from tattooing to dyeing hair, but its popularity soared in Europe during the 19th century as the Pre-Raphaelite movement garnered attention.

Generally considered unattractive at the time, red hair was fetishised and celebrated by several artists, including Dante Gabriel Rossetti and John Everett Millais. For those muses with plain hair, henna was a popular solution.

### Giulia Toffana

ITALIAN UNKNOWN-1659

Best known as Italy's most notorious poisoner, Toffana marketed her wares as a potion for women seeking a paler complexion. But her brand, Aqua Toffana, was a front: her real business was murder. For troubled wives, Aqua Toffana was an easy escape from marriage. She was executed for killing more than 600.



Under the Pre-Raphaelites, red hair became glorified





White lead powder was a silent killer in the 16th century

## WHITE LEAD POWDER 16TH CENTURY

In the Medieval make-up period, the price for beauty was high. The trend for pale skin was still thriving well into the 16th century, but the means of achieving it had become a much less invasive approach. Famed for being the 'Mask of Youth', Queen Elizabeth I popularised the use of white lead powder to fake the ultra-white complexion for which she was renowned. Yet beneath the pasty mask, something nasty was going on. The lead in the make-up caused skin to flare up into rashes, which would be covered up by more toxic make-up. Prolonged exposure would lead to hallucinations, delirium and personality changes.

A Vogue cover from c.1915 - the year the lipstick tube was created



### George Burchett BRITISH 1872-1953

As cosmetic sales soared in the 20th century, Burchett became the first to offer permanent make-up in the form of tattoos. As well as eyebrows, Burchett offered to make his customers blush, or keep their lips rosy forever. Aside from cosmetic tattooing, he also gave more traditional tattoos to the kings of Spain and Denmark.

## HAIR BLEACHING 1938

Bleaching hair blonde became the norm in the early 1930s, as Howard Hughes's film *Platinum Blonde* was released. Starring Jean Harlow, the movie's title was inspired by the actress's unnaturally bright hair colour. In an exceptionally cunning ploy to promote the film, Hughes organised a nationwide competition for hairdressers and fans alike to re-create the star's hair colour.

"Tanned, sun-kissed skin was a marker of outdoor labour; pale skin symbolised the luxury of leisure"



The original blonde bombshell, Jean Harlow inspired a generation to reach for the bleach

## LIPSTICK 1915

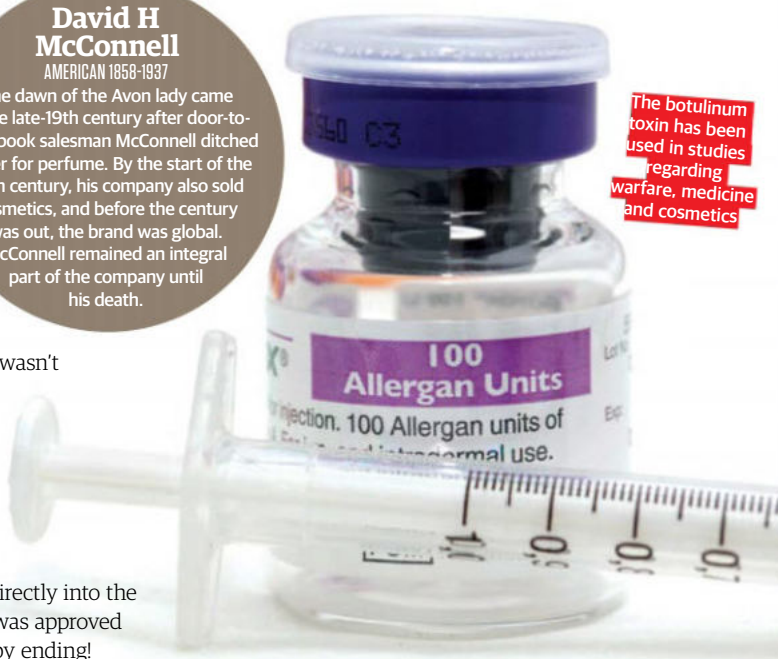
Women had been colouring their lips for centuries using pressed plants and crushed beetles, but the creation of the tube of lipstick in 1915 by Maurice Levy took the cosmetics world by storm. Now portable and handy, the lipstick was a symbol of everything the prudent Victorians had criticised about make-up - it was bold, sexy and was the antithesis of the natural look that had reigned for the last few decades. Eventually, brands began to embrace the unexpected, with purple, silver and green lipsticks making their way to the shelves.

## BOTOX 2002

Less commonly known by its scientific name of botulinum toxin, Botox rose to fame in the early 2000s as a means of 'wiping away' frown lines on the face. Now relatively safe and common, the toxin's history wasn't so illustrious. Associated closely with the disease botulism, the botulinum toxin can impact nerve and muscle function, trigger paralysis or even be fatal. Despite its lethal effect, the toxin is safe when injected directly into the muscle, and in 2002, Botox was approved by the FDA. Smile, it's a happy ending!

### David H McConnell AMERICAN 1858-1937

The dawn of the Avon lady came in the late-19th century after door-to-door book salesman McConnell ditched paper for perfume. By the start of the 20th century, his company also sold cosmetics, and before the century was out, the brand was global. McConnell remained an integral part of the company until his death.



The botulinum toxin has been used in studies regarding warfare, medicine and cosmetics



As sun beds fall out of fashion, consumers turn to bottled tan

## FAKE TAN 1970S

By the dawn of the 1970s, gone were the days of pale skin, bleeding and lead face powder - tanned was the new white. German scientist Friedrich Wolff came up with a solution to beat the rainy-day blues - sun beds. Using UV bulbs and reflectors to create a natural, even tan, the sun bed became an instant hit. Yet as tanners turned to the salons for a sun-kissed glow, a sharp rise in skin cancer troubled officials. Now we are aware that UV rays pose serious health issues, the golden age of tan beds is over and consumers are turning to the bottle for their fake tan hit.



# What if... Lady Jane Grey had kept the throne?

England's fate could have been dramatically altered if Lady Jane Grey had ruled supreme and Mary I had been at her mercy

Written by Nicola Tallis

When Lady Jane Grey was deposed after a 13-day reign, her cousin ascended the throne in her place as Mary I. Just months later, on 12 February 1554, Jane was executed. But what if the tables had been turned, and it was Mary who faced the executioner's axe?

Edward VI is dead: in his final will he left the throne to his cousin, Lady Jane Grey, thereby disinheriting both of his half-sisters, Mary and Elizabeth. On 10 July 1553, Jane is taken to the Tower of London, where she is publicly proclaimed queen. The common people, who are all loyal to Mary, greet the news with hostility. Meanwhile Mary flees to East Anglia in the hope of gathering support for her cause, and is hotly pursued by Jane's father-in-law, the Duke of Northumberland. Within days he has captured her and returns to London in triumph, bringing his royal prisoner with him. That still leaves Elizabeth, who is placed under house arrest while Mary is incarcerated in the Tower, there to await her fate. Shortly after, Elizabeth dies of smallpox.

Meanwhile, plans are made for Jane's coronation, and on 29 July she is crowned in a magnificent ceremony in Westminster Abbey. Jane's family bask in her glory, and she takes up residence at

the royal palace of Whitehall in order to begin her reign. The Duke of Northumberland had assumed that he would be the main power force in the land, but Jane quickly asserts her authority and makes it clear that she intends to rule. Nevertheless, it is with his support that she immediately reaffirms all of the radical religious policies that had been implemented by King Edward, for she is determined to make England a thoroughly Protestant nation and stamp out Catholicism. Within a short space of time, Catholics are being burned at the stake for refusing to convert.

The problem of Mary still remains, and escape attempts are already being planned on her behalf. While she is alive she is a permanent risk to Jane's security, but if she dies Jane risks the declaration of war from Mary's powerful cousin, the Holy Roman Emperor Charles V. However, Jane's hand is forced when a plot to overthrow her and install Mary in her place is uncovered.

Aware of their familial relationship but under pressure from her advisers, particularly Northumberland, Jane reluctantly issues orders for her cousin's execution. She makes a last ditch attempt to persuade Mary to abandon her Catholic faith and convert to Protestantism, but Mary is horrified and refuses to renounce her beliefs.

On 12 February 1554, Mary is executed within the confines of the Tower. Her death causes shock and fury both in England and abroad, and the Emperor Charles V immediately declares war. With Mary's death, all thoughts of England returning to the folds of the Catholic Church are dashed: under Queen Jane, the country becomes thoroughly Protestant, but in a state of war against the most powerful nation in Europe. Despite allying with France, it is clear that the threat of war is imminent and the outcome is unpredictable.

A year after Jane's succession, the threat of war fades, and she is now the undisputed queen of England. Her claim is strengthened by the fact that she is now pregnant. She gives birth to a son, named Edward: the Protestant succession of England and Jane's legacy now appears secure.



## NICOLA TALLIS

Nicola Tallis is an author and historian whose first book, *Crown Of Blood: The Deadly Inheritance Of Lady Jane Grey*, published by Michael O'Mara Books, is out now. The result of five years of research, her book has received excellent reviews. Nicola specialises in the Tudor period, and has worked as a researcher, lecturer and curator. Her second book will be published in November 2017.

## How would it be different?

### Edward VI dies, aged 15

Henry VIII's only male heir dies at Greenwich Palace. In his final will, 'My Devise for the Succession', the king leaves his throne to Lady Jane Grey.

6 July 1553

### Jane is publicly proclaimed queen

Jane is taken to the Tower of London, where a proclamation announcing her succession is read. Meanwhile, Mary flees to East Anglia in order to rally support for her claim to the throne.

10 July 1553

### Mary is captured

Supported by four of his sons and a large force, the Duke of Northumberland surrounds Mary's stronghold, Framlingham Castle, forcing her to surrender. She is captured and taken to London.

19 July 1553

### Queen Jane's Coronation

Jane becomes the first queen regnant of England. She is crowned with Saint Edward's Crown, and her coronation banquet – a huge celebration – is hosted in Westminster Hall.

29 July 1553



*What if...*  
LADY JANE GREY HAD KEPT THE THRONE?



Refusing to abandon her beliefs,  
Mary awaits execution in the  
Tower of London

**Henry VIII's eldest daughter,  
Mary, is executed**

On Jane's orders, Mary is beheaded at the Tower of London. She meets her end with strength and dignity, and defiantly proclaims her devotion to the Catholic Church.

**12 February 1554**

**First Catholics are burned at Smithfield**

Having passed a law that ensures all Catholics who refused to convert to Protestantism face death, the first three Catholics are burned at Smithfield in a terrible example to the citizens.

**April 1554**

**A prince is born**

Queen Jane gives birth to her first child by her husband, Guildford Dudley, duke of Clarence. Prince Edward is now the heir to the throne.


**September 1555**

**Queen Jane dies**

On the anniversary of the execution of her cousin, Queen Jane dies. Throughout the course of her reign she has given birth to five children, three of whom survived infancy: a boy and two girls. She is succeeded by her son, Edward VII.

**12 February 1589**





# NASA's forgotten geniuses

How 'female computers' helped the USA reach for the stars and beat the Soviet Union to the Moon

Written by Jonny O'Callaghan



*Hidden Figures* tells the story of NASA's 'women computers'



## NASA's forgotten geniuses

When Katherine Johnson left university in 1937, her career options were limited. Despite being an extremely gifted mathematician, she was a woman and an African American, two qualities that made her quite unemployable. So she became a teacher, one of the few professions she could enter. Two decades later, however, she found herself at the centre of the Space Race between the world's two biggest superpowers. Ultimately, her talents - and those of many other women like her - helped send humans to the Moon.

In a time before women's suffrage, and before the civil rights movement gave African Americans a voice, women like Johnson faced not only discrimination but also segregation in the workplace. The state of Virginia, in particular, was fiercely intolerant to African Americans in the early 1900s, and one of the least progressive states in the nation. Although the Nineteenth Amendment to the US Constitution had been passed by Congress in 1919, giving women the right to vote, the Virginia General Assembly delayed its ratification until 1952. By that point, women had been voting and even holding public office for more than 30 years.

At the Langley Research Centre (LaRC) in Virginia, however, things were different. The nation's first aeronautics laboratory was established in 1917 and would go on to become the birthplace of the US space programme in the 1950s. It would be here that the original NASA astronauts would undertake their training, and where African-American women like Johnson would help launch man into orbit. The LaRC represented an island of rationality within Virginia, where forward thinking was not only allowed and encouraged, but essential.

A consequence was that the LaRC operated in defiance of Virginia laws, and that included policies towards women and African Americans. In the 1930s, with only a few hundred engineers on its books and needing extra resources, the National Advisory Committee for Aeronautics (NACA) - which would become NASA in 1958 - started hiring women to sift through data and perform calculations. Using so-called 'women computers' was not unprecedented; in astronomy, the practice had been carried out for decades, and had led to some ground-breaking research. Notably, in 1912, an astronomer called Henrietta Swan Leavitt at Harvard had found that certain types of pulsating stars could be used as distance markers in the universe. Her amazing discovery ultimately led to the revelation that our galaxy is not alone in the cosmos.

At the LaRC, this programme benefited both parties. For the centre itself, women became a key part of the organisation, measuring and calculating the results of wind-tunnel tests. A memo dated 1942 stated: "The engineers admit themselves that the girl computers do the work more rapidly



Dorothy Vaughan (far left), pictured with two other computers at NACA



Katherine Johnson, pictured at NASA in 1966



### HIDDEN FIGURES

Based on the book of the same name by Margot Lee Shetterly, *Hidden Figures* tells the story of women who played a key role in powering space exploration. It is currently showing in US cinemas and will be released in the UK in February 2017.



# NASA's forgotten geniuses

and accurately than they would." For the women involved, it was welcome work that was more financially rewarding than other professions, such as teaching. The first female to break the gender barrier was Pearl Young, who was hired to work at the LaRC in 1922 as a physicist. Later, she would play a vital role in making the work carried out by NACA more accessible to the public, in the form of readable technical reports, and go on to become chief technical editor.

When World War II struck and able-bodied men were summoned to fight, Langley began hiring black female mathematicians, too. President Roosevelt played a big part in this, as his issuing of Executive Order 8802 prohibited racial, religious and ethnic discrimination in the country's defence industry. Due to segregation laws, however, the new recruits were kept separate from their white female counterparts and assigned to the 'West Area Computers' unit. At its peak, it's thought

there were about 200 women doing computing work for NACA, about 70 of who were African American. The centre was so impressed by these workers that, after the war ended, they continued to employee women computers.

In the 1950s, the LaRC found itself becoming involved in rocket research, as the Space Race between Cold War rivals the US and the Soviet Union began. Langley's research took on a whole new meaning - they would be helping to send Americans to space in the bid for supremacy. The research was slow and steady at first, until 4 October 1957. That was the day the Soviet Union made history and launched the world's first artificial satellite, Sputnik 1, into orbit. Spurred on by the challenge, NACA was re-purposed into the National Aeronautics and Space Administration (NASA) and the race was on.

Three remarkable African-American women were working at the LaRC during this time, and their achievements are finally getting the recognition they deserve in the biographical

"Due to segregation laws, however, the new recruits were kept separate from their white female counterparts"



The first American to orbit Earth, John Glenn, launches on Friendship 7 on 20 February 1962



Melba Roy, a female computer at NASA in 1964

## The history of 'female computers'

Before modern electronic computers, the term denoted someone who computed something, and was used as far back as the 17th century. The work was often tedious, generally sifting through data and performing calculations, and it was generally carried out by men. In the late-19th century, however, astronomer Edward Charles Pickering at Harvard began employing women for the roles, dubbed 'Pickering's Harem'. This undoubtedly reflected the status of women at the time and they were paid half of what the men were, and yet they helped to map the universe.

The positive effect was that many agencies - including NASA - started employing female mathematicians to perform this type of work. Although not wholly prestigious, it provided a welcome career path for women in the early-20th century. Many went on to be programmers or engineers with the advent of electronic computers. During World War II, with a drastic shortage of manpower, the practice was greatly expanded. It opened doors for a huge number of people.

Grace Hopper, for example, is generally regarded as one of the first computer programmers ever in 1944, and was posthumously awarded the Presidential Medal of Freedom by President Obama on 22 November 2016, along with Margaret Hamilton, a computer scientist who played a key role in landing humans on the Moon. Katherine Johnson, one of the three main characters in *Hidden Figures*, also received the award in 2015.



President Barack Obama presents Katherine Johnson with the Presidential Medal of Freedom





A group of computers (front row) at NACA in the 1950s. Mary Jackson is on the far right

blockbuster *Hidden Figures*. While only one was directly involved in sending people to space, each had their part to play in making the agency the world leader in space exploration, and changing attitudes there for good.

Dorothy Vaughan was hired by NACA in 1943, and it quickly became apparent that she was a very capable manager of people and a good judge of skill. When a white woman in charge of the West Area Computers became sick, Vaughan stepped in as acting head, and ended up in the role for three years - held in limbo - before being given the job officially. "Dorothy was the first black woman supervisor for NACA and NASA, and she was exceptional in a wide number of things, such as a sense of justice and willingness to go that extra step," said Bill Barry, NASA's Chief Historian and a consultant on the *Hidden Figures* film. Vaughan would often put her own position on the line in order to protect her team.

Mary Jackson, who came in to the LaRC as a computer, also had a degree in maths and physics, and was very mechanically inclined. She would end up becoming the first black female engineer and, Barry said, possibly the first female engineer in the whole agency. "That was pretty exceptional at the time," he added.

But perhaps the most outstanding of the three was Katherine Johnson, at least in terms of her "raw intellectual ability," according to Barry. She had a mind wrapped around numbers, and could see things others couldn't. "I counted everything," she once said, "The steps to the road, the steps up to the church, the number of dishes and silverware I washed... anything that could be counted, I did." On her lunch breaks, she would pore over space technology manuals to figure out what her superiors were doing, and how her work fit in.

A pivotal moment in the women's lives was the sending of astronaut John Glenn into space. On 12 April 1961, the Soviet Union and Yuri Gagarin shocked the world by beating the USA to putting a man in to orbit. He was followed three weeks later by American Alan Shepard as part of Project Mercury on 5 May 1961, but the Americans were playing catch-up, and they knew it. First after first was going to the Soviets, and they looked ever more likely to send a human to the Moon - the arbitrary 'end goal' of the Space Race.

Shepard's flight was suborbital, meaning that his spacecraft had entered space and returned to Earth without entering orbit, whereas Gagarin's had been orbital. After another American suborbital flight, made by Gus Grissom, the aim was to send Glenn



From left to right, Vaughan, Johnson and Jackson in *Hidden Figures*



Katherine Johnson in *Hidden Figures*, played by Taraji P Henson



# NASA's forgotten geniuses

on an orbital flight in 1962 and match the Soviets. This was where Katherine Johnson came in. She was the expert on calculating the geometry of trajectories, namely how you got from one place to another in space by firing retro-rockets. She had done these calculations for Shepard's flight, but they were getting more and more complex, leading NASA to start using actual mechanical computers. However, they weren't considered reliable, and the software wasn't as robust as it needed to be.

"When it was time for Glenn's flight, the critical question was whether the computers work and give the answers they wanted," Barry explained.

"She was the expert on calculating the geometry of trajectories, namely how you got from one place to another in space"



A human computer at work with a microscope, collecting data at Langley Research Center

Glenn's solution? "Get the girl to check the numbers." It was now up to Johnson to manually work out the computer's calculations, and make sure they were correct. It took Johnson a day and a half to plough through the millions of calculations. In the end, her data matched the computers, and the mission went ahead. Glenn's flight was a success and, eight years later, men - Americans - would walk on the Moon, winning the Space Race.

Johnson's work proved crucial to later Apollo missions too, including solving issues with the rendezvous and docking techniques required to link two spacecraft. This would be crucial to

getting the men on the Moon back to Earth - by docking their lunar module with the command module in orbit. "If you ask her, she'll tell you that's her most important work, making sure those calculations happened so they could rendezvous in lunar orbit," said Barry. Johnson's work even provided the backbone of modern spaceflight, as much of the maths used today can be traced back to her. She also wrote a technical report on the subject, with the somewhat unwieldy title of 'Determination Of Azimuth Angle For Placing A Satellite Over A Selected Earth Position'.

Perhaps one of the most remarkable things about all this, though, is just how much of a microcosm the LaRC was. Inside, the women were allowed to chat freely, regardless of race. Outside, they weren't even allowed to sit and talk to each other in a restaurant. Barry told of a story of a NASA engineer in downtown Hampton, Virginia, one night in the late 1950s, who saw people harassing an African-American man who worked at Langley. The engineer went over to intervene, and found himself thrown in jail. "I think that tells you something about the environment there," added Barry.

These three women have been overlooked until now, but the impacts made by these early NASA pioneers were far reaching. Mary Jackson, later in her career, for example, used her mathematical skills to show there was a bias against promoting women. She helped other women advance their careers, and ultimately became the federal women's programme manager at Langley. Now we live in an era when NASA is directed by an African-American man, Administrator Charles Bolden, and a woman, Deputy Administrator Dava Newman, and it's commonplace for women to lead technical projects at NASA in Langley. The LaRC serves as a reminder that, in sometimes the most unexpected places, rationality can prevail. "They were a group of engineers, not used to fitting in, and they found each other," said Barry. "I think it shows humanity at its best. It shows what we can be like when we act like decent human beings."

## Five key NASA women



### MARGARET HAMILTON

Margaret Hamilton was a computer scientist working with NASA in the 1960s, leading the team that developed the software for Apollo and Skylab. She was awarded the Presidential Medal of Freedom in 2016 for her work.



### SALLY RIDE

Trailblazer Dr Sally Ride was the first American woman to go to space, aboard Space Shuttle Challenger in 1983, and she flew again in 1984. She was completing her PhD in physics when she discovered that, for the first time, women could apply to become astronauts.



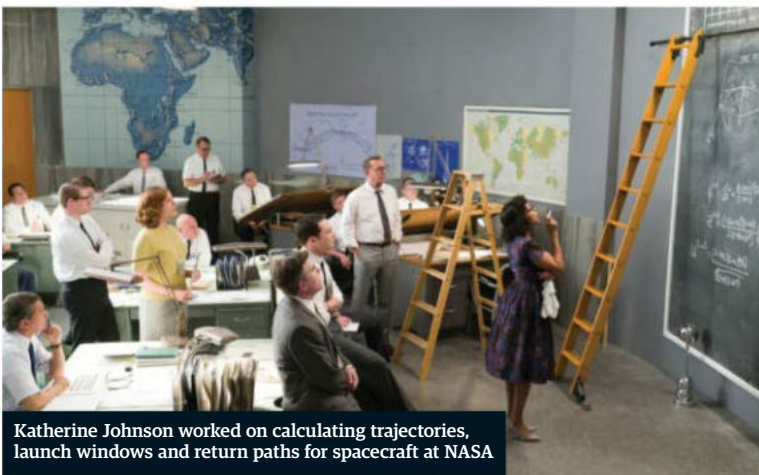
### KALPANA CHAWLA

In 1997, Kalpana made history by becoming the first Indian-American to go to space, aboard Space Shuttle Columbia. She flew again on Columbia in 2003, but died tragically, along with her crewmembers, when the shuttle broke up on re-entry.





Astronaut John Glenn, the first American in space, entering his spacecraft Friendship 7 prior to launch, 1962



Katherine Johnson worked on calculating trajectories, launch windows and return paths for spacecraft at NASA



### SHANA DALE

In 2005, Shana Dale became the first female deputy administrator of NASA. She held the position until 2009, and has been succeeded by two more women - Lori Garver and Dava Newman. At the time of writing, no woman has yet become NASA administrator.



### PEGGY WHITSON

The American biochemistry researcher became the first woman to command the ISS in 2007. She has been to space three times, including most recently on Expedition 50 and 51, and is NASA's most experienced female astronaut.



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## Observation posts

Scouts atop the mountains north of the Tugela River monitored the British army as it marched across the barren terrain south of the river. They passed information to Boer commander Louis Botha.

## Field guns

The British unlimbered two six-gun field batteries within 900 metres of the Tugela River to cover the advance of the British infantry. The batteries were equipped with 15-pounders, the standard British field gun. The gunners exhausted their ammunition, and then fell back to a ravine because of the intensity of the Boer rifle fire.

## Hidden enemy

Botha had 13 regiment-sized militia units known as commandos spread out along an 11-kilometre front. The Boer riflemen fired from concealed positions behind rocks, stone walls and trenches on or below rocky hills known as kopjes. Because the Boers used smokeless cartridges, the British couldn't pinpoint their exact positions.

## Road to Ladysmith

General Buller's objective was to dislodge the Boers from the north bank of the river. After that, he would have to fight his way through 16 kilometres of hill country controlled by the Boers to reach Ladysmith.

## Call for volunteers

General Buller rode to the ravine where Long's gunners were huddled. He asked for volunteers to remove the guns. He sent three staff officers to assist. One of them, Lieutenant Freddy Roberts, was mortally wounded in the effort and posthumously received for the Victoria Cross, the highest award bestowed by Great Britain's military.





### Aim for the officers

The Boers deliberately picked off officers commanding the 14th and 66th Batteries of the Royal Field Artillery. The senior commander, Colonel Charles Long, was seriously wounded in the abdomen, and two battery commanders were slain as the crews were shot to pieces by the Boers.



# BATTLE OF COLENZO

NATAL, SOUTH AFRICA, 15 DECEMBER 1899

Written by William E Welsh

**T**he Dublin Fusiliers marched towards Tugela River at sunrise. The troops of the British left were determined to cross the swift-flowing river and establish a bridgehead on the north bank. Just as they entered a wide loop in the river, shells from enemy guns hidden in the hills to the north exploded among their ranks. Boer riflemen opened fire on the Irishmen and the other three regiments of Major General Fitzroy Hart's 'Irish' Brigade. The blizzard of bullets hit the ranks of the Irishmen from three directions at once. Those who escaped returned fire from the prone position, as officers barked at the rankers to fight their way forward. The battle had got off to an ominous start.

In reaction to what the Boers perceived as acts of aggression by Great Britain, they had declared war three months before Colenso. Hoping to win a string of quick victories over the weak British forces in South Africa before reinforcements could arrive from Great Britain, mounted columns of Boer militia streamed into Cape Colony and Natal. The Boers, however, became bogged down with lengthy sieges at Kimberley, Ladysmith and Mafeking when they should have fought their way to the coast to bottle up British forces arriving at South Africa's ports.

When the newly raised 1st Army Corps arrived in South Africa in November, Buller sent half to the western theatre, and he accompanied the other half in a drive to relieve Ladysmith in western Natal. As he prepared to attack the Boers on the Tugela line, Buller learned that British forces in the western theatre had suffered two serious defeats. It was up to Buller to reverse British fortunes.

Leaving enough troops to continue the siege at Ladysmith, Boer General Louis Botha led a sizeable force south to defend the Tugela. Buller faced a major challenge dislodging Botha, whose troops were dug in behind a river. "Beyond the river was tier after tier of hills, crowned with stone walls and seamed with trenches, defended by thousands of the best marksmen in the world, supported by an admirable artillery," wrote Arthur Conan Doyle, who served as a medic during the conflict.

The Boers were armed with German Mauser rifles that used smokeless cartridges. This meant that the Boers, who were fighting from concealed positions, would not be betrayed by clouds of smoke from out-of-date black-powder rifles, which were still being used by the British. After two hours of fighting in which the British troops on the flanks failed to achieve their objectives, Buller called off the battle. To prevent a panic among the men, he slowly disengaged his forces.

Buller suffered 1,138 casualties at Colenso in contrast to the Boers' negligible losses. Colenso was the third stinging defeat in a week's time, along with Stormberg and Magersfontein, in what the British press aptly dubbed Black Week. Buller was stripped of his command over all British forces in South Africa, and restricted to command only those forces deployed in Natal. The British government recalled to active duty Field Marshal Lord Frederick Roberts to serve as the top commander. Two days after Colenso, Buller had the unenviable task of informing the new commander that his beloved 27-year-old son Freddie had fallen at Colenso.





## British

**TROOPS** 20,000  
**GUNS** 44



### GENERAL REDVERS BULLER

#### LEADER

A veteran of the Egyptian and Zulu wars, he was fearless under fire and beloved by his men.

**Strengths** A relentless fighter who had the respect of his troops.

**Weakness** He had not led a force this large in battle before.



### 4.7-INCH NAVAL GUN

#### KEY UNIT

Sailors off-loaded the guns from Royal Navy cruisers at Durban and put them on wooden carriages.

**Strengths** They had a range of 9,100 metres and used the new high-explosive called lyddite.

**Weakness** They were cumbersome to transport overland.



### LEE-METFORD RIFLE

#### KEY WEAPON

Bolt-action, breechloading rifle with a ten-round magazine and an effective range of 730 metres.

**Strengths** No real strengths when compared to the superior German Mauser.

**Weakness** Inferior barrel rifling and it used an obsolete black-powder cartridge.

## 02 Irish brigade gets lost

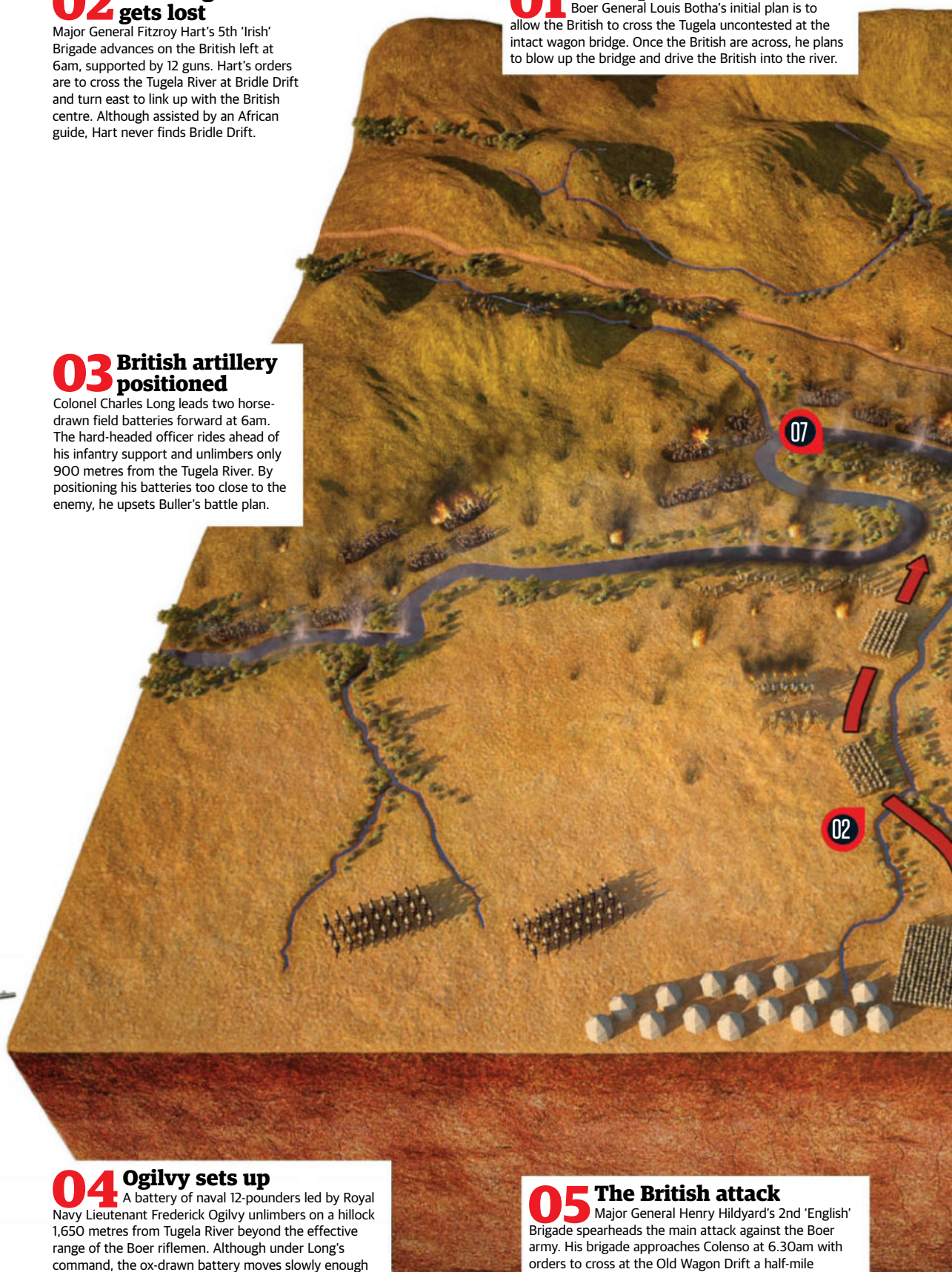
Major General Fitzroy Hart's 5th 'Irish' Brigade advances on the British left at 6am, supported by 12 guns. Hart's orders are to cross the Tugela River at Bridle Drift and turn east to link up with the British centre. Although assisted by an African guide, Hart never finds Bridle Drift.

## 03 British artillery positioned

Colonel Charles Long leads two horse-drawn field batteries forward at 6am. The hard-headed officer rides ahead of his infantry support and unlimbers only 900 metres from the Tugela River. By positioning his batteries too close to the enemy, he upsets Buller's battle plan.

## 01 Botha plans his attack

Boer General Louis Botha's initial plan is to allow the British to cross the Tugela uncontested at the intact wagon bridge. Once the British are across, he plans to blow up the bridge and drive the British into the river.



## 04 Ogilvy sets up

A battery of naval 12-pounders led by Royal Navy Lieutenant Frederick Ogilvy unlimbers on a hillock 1,650 metres from Tugela River beyond the effective range of the Boer riflemen. Although under Long's command, the ox-drawn battery moves slowly enough that Long inadvertently allows Ogilvy to determine where to unlimber it.

## 05 The British attack

Major General Henry Hildyard's 2nd 'English' Brigade spearheads the main attack against the Boer army. His brigade approaches Colenso at 6.30am with orders to cross at the Old Wagon Drift a half-mile downstream and secure a bridgehead on the north bank of the Tugela River. Buller ultimately cancels the attack.



## 10 Boers capture abandoned guns

As the last of the British troops march away from the battle at 3pm, the victorious Boers cross the Tugela River and take possession of the ten abandoned guns from Long's ill-fated artillery units.

## 09 Gun recovery effort begins

Buller rides over to the ravine where the surviving gunners of Long's batteries are huddled for protection against the storm of Boer rifle fire. Unflinching under enemy fire, Buller rallies his men. He sends volunteers to recover the guns, but they are only able to recover two of the 12 guns due to the intense enemy fire.

## 08 Buller calls off the attack

Frustrated with the inability of his troops to make any substantial progress towards establishing a bridgehead on the north bank, Buller decides to call off the attack. But first he must rescue Long's 12 guns so that they do not fall into the hands of the Boers. Buller orders Hildyard to furnish covering fire while Long's guns are withdrawn.



### Boers

**TROOPS** 4,500  
**GUNS** 12



### GENERAL LOUIS BOTHA LEADER

An aggressive young commander, he imparted discipline to his militia troops and devised an excellent defence of the Tugela River line.

**Strengths** He had a knack for defensive fighting.

**Weakness** Lacked extensive experience possessed by more senior Boer commanders.



### FRENCH-MADE CREUSOT 75MM CANNON

#### KEY UNIT

The gun featured an innovative new recoil system and had a range of more than 7,300 metres.

**Strengths** Its low-profile concealed it from enemy observation.

**Weakness** The recoil system occasionally malfunctioned and ammunition did not always explode as it was supposed to.

### GERMAN-MADE MAUSER MODEL 1893/95

#### KEY WEAPON

Small bore, breechloading rifle with a five-round magazine and an effective range of 1,800 metres.

**Strengths** It used smokeless powder, making the rifleman undetectable when shooting from a concealed position.

**Weakness** If one of the bullet's brittle steel casings came loose, the barrel could potentially burst.

## 06 Boer onslaught

Lord Dundonald's dismounted cavalrymen storm Mount Hlangwane at 6am supported by six field guns. They capture the lower slopes, but the Boers deliver a galling fire from the summit that checks the British advance.

## 07 Search for escape route

Hart's troops search in vain inside the wide loop in the Tugela River for a crossing point, but heavy rains conceal it from view. Hart breaks off the search at 7am, but it takes him three hours to extract his men who are pinned down by the Boers.









# -SECRETS OF THE- MARY ROSE

This famed Tudor ship was Henry VIII's pet project, but why did his fleet's flagship sink suddenly in the Solent?

**A**s the last vestiges of Mary Rose were consumed by the very sea it had sought to conquer, the men who would sink to the bottom of the ocean with it could not have known that they were to become part of one of the greatest archaeological sites of the Tudor period, preserved like no other for historians of the 20th century to marvel at and analyse for

decades. This particular disaster, unexpected and perhaps entirely unnecessary, was rare - the loss of life may have seemed futile, but without it, we might have a very different understanding of the Tudor period. But it is not only for its immense bounty of historical artefacts that Mary Rose has endured as one of England's (and, perhaps, the world's) most notable shipwrecks. It is also, as

ever, the mysteries surrounding its story that have seen it remain a point of fascination for history enthusiasts and experts alike. There is plenty we can't be sure of when we ask that simple-sounding question, "Why did Mary Rose sink?"

What we do know is that Mary Rose was commissioned by Henry VIII as part of a new navy. He had inherited a rather measly fleet and set about

• Written by Alex Hoskins •







improving it for the many battles that lay ahead with sea ships known as carracks - Mary Rose and another commission, Peter Pomegranate. Historians still debate exactly who the boat was named after (if indeed, it was named after a person at all, as this was not the trend at the time). Popular belief often sides with Henry's sister, Mary Tudor, while it is generally considered more likely the name was a tribute to the Virgin Mary, known at the time as the 'Mystic Rose'. This also chimes well with the naming of Peter Pomegranate, as the pomegranate is a symbol of resurrection and eternal life - often associated with Jesus. The fruit is even shown in the hand of Jesus in some depictions of the Madonna and Child. The pomegranate was also a symbol of the house of Aragon, which was certainly a consideration when Henry chose the name for the boat, as he was married to Catherine of Aragon. When they were divorced, Henry renamed Peter Pomegranate as Peter.

However, the boat's name is not the only source of mystery. The end of Mary Rose came suddenly, on 19 July 1545. Having survived a glittering career of three French wars, from 1512 to 1545 (with rest and restoration in between), Mary Rose was sunk dramatically in the Battle of the Solent, much to the surprise and delight of the French. It was a stacked battle - the French fleet numbering 128 ships, while Henry's was just 80. But it was soon to be down one notable ship.

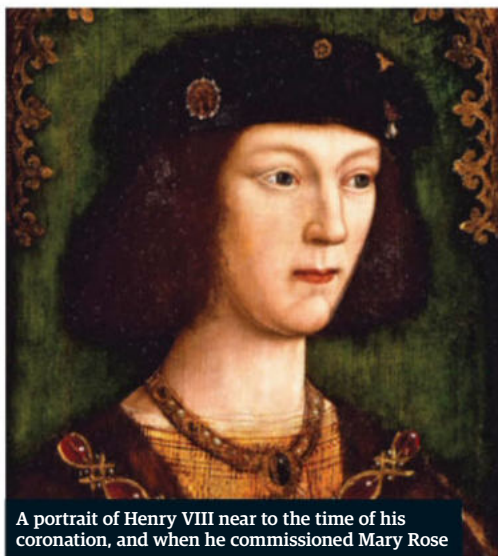
**T**he French account of the battle tells that on the morning of the fateful 19 July, after two days of battle with no real loss to either side, French ships made an attempt to lure the English out of their relative safety in the Solent to come within closer range of the French galleys. The weather had been calm all day - and yet suddenly, Mary Rose began to sink.

If we look to the English records, the events played out slightly differently. Henry VIII had been dining with Admiral Viscount Lisle on the fleet's pride and joy, Henry Grace à Dieu, the night before the sinking. At dinner, Henry bestowed Mary Rose upon George Carew, which, with Mary Rose being the fleet's second largest vessel after Henry Grace à Dieu, promoted him to the heady heights of vice admiral of the fleet. Little could he or anyone else know, he would soon be in charge of a ship that was doomed to failure. Some accounts claim that Henry VIII looked on from Southsea Castle as Mary Rose sank - we can only imagine today how it would feel to see the flagship of your fleet sink, without discernible reason.

Whichever order of events is correct, whether French or English, the question remains: what was the cause of this sudden trajectory toward the abyss? There are four main theories for the ship and crew's shocking demise. The first



The Madonna and Child with a pomegranate, which may have given the ship Peter Pomegranate its name



A portrait of Henry VIII near to the time of his coronation, and when he commissioned Mary Rose

## Three French Wars

The reason for Mary Rose's outing on the Solent was a strategic battle, its last in a series of three, against the French. The first had begun in 1512, led by Sir Edward Howard, lord high admiral of Henry's fleet, with Mary Rose as his flagship. The ship had raided Brittany, with 12 Breton ships captured. Upon returning to Southampton following this triumph, Henry VIII graced the ship with his presence, visiting briefly before it sailed out again to Brest, to the Battle of Saint-Mathieu. It was by all accounts another success. Mary Rose, it seems clear, was a formidable ship at the start of its career. Following this, the vessel was involved in skirmishes and played its part in the Battle of Flodden Field, carrying troops to Newcastle. In the autumn of 1513, Henry's sister Mary was married to the King of France, Louis XII, which ended the wars - for now, at least.

By 1522, the amicable relations between the English and French were already over. Mary Rose set off again ready to capture the port of Morlaix, Brittany, on 1 July. It went off without a hitch, and the ship returned to Dartmouth triumphant. The Scots joining forces with the English in 1525 brought about victory once again in this war, and the Battle of Pavia saw an end to the conflict.

The third in this series of wars came in 1545, as a result of Henry's vulnerability following the break with Rome, and a promise made to the Charles V, Holy Roman emperor, intended to make alliances. But Charles made his own pact with the French, leaving Henry to fight the battle that would sink Mary Rose.



An engraving showing the sinking of the Mary Rose, based on an original painted between 1545 and 1548





The Mary Rose as depicted in the Anthony Roll, a record of the Tudor navy of the 1540s

## “After the initial tipping of the ship, seawater gushed in through the gun ports, sealing the fate of the ship and its men once and for all”

of these stems from the same French accounts referenced previously, in which one lone French cavalry officer claimed that the ship had been sunk by an onslaught from French guns, which had been in the process of trying to goad the English into coming further away from the shallow water at Spitbank. The likelihood of this would depend upon the position of the hit: if it was a cannonball low in the ship's hull, water would inevitably leak into the vessel causing an upset to the balance, resulting in the ship toppling over.

Another theory is that the vessel had been overloaded, either with guns, men or both. The ship had, during improvement works while it was kept in reserve between 1522 and 1535, gained an extra capacity of some 100 tons. It was caulked and

made as new, and was fitted with extra bracing, indicating that Mary Rose was expected to carry heavier loads in the future. We can't know for sure exactly what changes were made, but it has been suggested that extra gun ports were also cut to allow greater fire power. However, it's generally considered unlikely that overloading with guns could be the reason for the topple, as the ship had successfully made the journey from London.

Overloading of soldiers is a much more likely contributing factor in the disaster. The ship was built to hold 400 men, but reports state that 700 were aboard. Imagining the scene of panic among the crew and soldiers as the boat began to sink suddenly, packed like sardines with no escape route, is truly sobering.

For the underwater archaeologists who uncovered the bodies of many of those men on board four centuries later (the wreck was rediscovered in 1836 by a local fisherman, and in 1965 a local diving group, led by a diver called Alexander McKee, identified the first part of the ship's wreck), it must have been a shocking, while certainly exciting, sight to behold.

A catastrophic case of human error is cited as another possible explanation for the ship's end - with a crew of 700 men, it is not beyond the realms of possibility that in the heat of battle, a crew member could make a fatal mistake, perhaps leaving open a spot that should have been defended, or failing to close a gun port.

A final theory, which seems almost too simple to have claimed the lives of so many, is that a rogue gust of wind caught the ship while it was in a vulnerable position, turning to make use of the guns on its other side. Whichever of these theories tells of the deciding factor, we do know that after the initial tipping of the ship, seawater





# INSIDE THE MARY ROSE

The raising of Mary Rose from the depths of the Solent has provided archaeologists and historians with incredible knowledge about the running of a Tudor ship. Items discovered, such as longbows and woodworking tools, have also provided an insight into the lives of the individuals that went down with the vessel.

### Guns

Present in various theories for the ship's sinking, the ship's gun ports allowed the gunners to load and shoot cannonballs.

### Archers

We know that there were several archers on board, from the number of longbows found and the changes in bone structure on their remains.

### The master gunner

One set of remains was identified as the master gunner, displaying a compacted lower spine following years of moving and loading heavy guns.

### Kitchen

Remains of what is thought to be the ship's cook were found near the kitchen, along with a ladle, knives and spoon.

gushed in through the gun ports, sealing the fate of the ship and its men once and for all.

Dr Peter Marsden, a historian and archaeologist specialising in Tudor ships, and editor of the book *Mary Rose: Your Noblest Shippe* - which examines what we know about the ship and its structure - considers that the most likely theory is also the most tantalisingly straightforward. He told us: "It seems that the reason given for the sinking in 1545 applies. It was simply that on a day of a quiet breeze, the ship had its gun port lids open having just fired at a French warship, when an unexpected gust of wind heeled it over and it flooded." This is in line with a rare eyewitness account of the tragedy, which reported that the ship had fired all of its guns and was turning in order to use the guns on the opposing side, when it was ambushed by an unexpected gust.

However, Dr Marsden is also keen to consider the impact of communication and possible human error in the events leading up to the tragedy at sea: "It could also be that having many foreign nationals who could not speak English on board added to the problem in that they did not understand orders given in English," Marsden told us, bringing to light another factor that very likely contributed to the disastrous sinking.

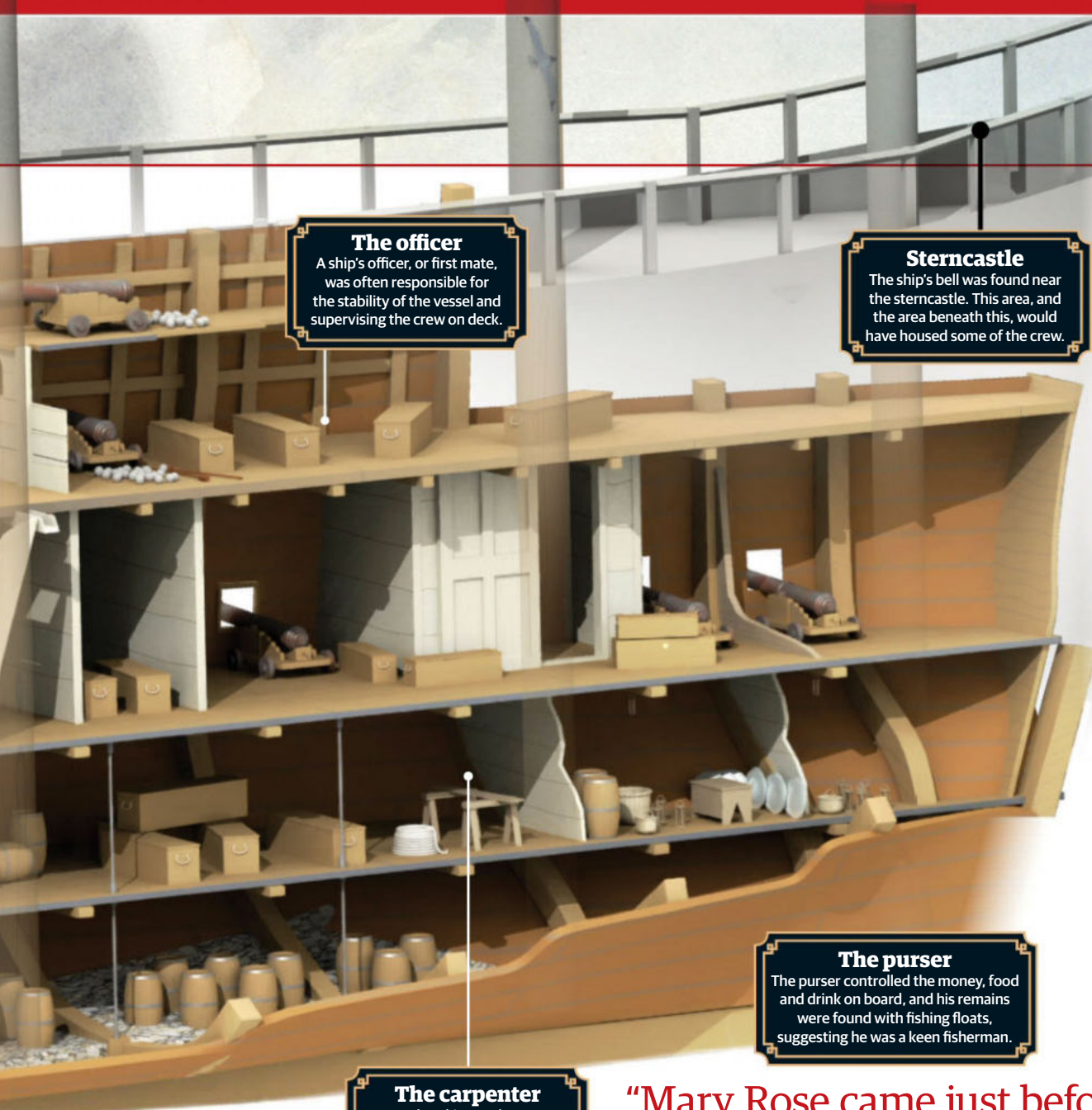
Analysis of the skeletons of the bodies found with Mary Rose revealed that some of the men aboard were not British, but of Mediterranean or continental European extraction. This could have caused a fatal language barrier that made orders much more difficult to follow for the seamen. However, analysis also suggested that the majority of the men hailed from England's West Country. It is claimed that the admiral of Mary

Rose, Sir George Carew, cried out during the chaos that he was in charge of the, "...sort of knaves I cannot rule," hinting at disobedience and perhaps incompetence on board the ship.

The picture this paints of the last hours of the men on board is one of chaos, panic and hopelessness. A picture of a crew sunk by their own disobedience, and a general lack of understanding between the crew on board. But, levels of illiteracy were perhaps surprisingly high among men at this time, and particularly among the ambitious and somewhat 'upwardly mobile' profession of sailing.

About 20 per cent of the male population was literate according to a study of education when Elizabeth I took the throne in 1558. The discovery of artefacts found on board bearing letters - for example, a knife handle and a trencher bearing the letter 'W' and a spoon bearing a reversed 'N' - goes





### The officer

A ship's officer, or first mate, was often responsible for the stability of the vessel and supervising the crew on deck.

### Sterncastle

The ship's bell was found near the sterncastle. This area, and the area beneath this, would have housed some of the crew.

### The purser

The purser controlled the money, food and drink on board, and his remains were found with fishing floats, suggesting he was a keen fisherman.

### The carpenter

Woodworking tools - axes, planes and more - were found near the remains of one man, marking him out as a carpenter.

## FACTS

# 10000

Approximate number of artefacts found on the shipwreck

# 25

Estimated number of crewmembers that survived

# 34 YEARS

Mary Rose served as Henry VIII's flagship

# £133,000

was spent on flags for the ship (in today's money)

# 600

Number of tons Mary Rose weighed when it was made

© Adrian Mann

## "Mary Rose came just before a watershed change for the design of seaships"

further to suggest that the men on board were at least able to read the alphabet. But, as is often the issue with drawing conclusions about Mary Rose, we cannot truly know the levels of literacy or competence among the crew.

Finally, Dr Marsden states, one last inconvenience would become a catalyst for the ship's demise: "The inefficient and slow system of closing gun port lids forbade making an immediate response to heeling over." So once the water had begun gushing in to these open ports, there would be no chance of stopping it - or of stopping the ship from sinking.

Questions like this one of the fitness of the design of the ship lead to another route of inquiry - should more have been done to make the ship safe for the crew? Was the safety of the crew even a consideration for the war-mongering king or the ship's designers and builders?

Dr Marsden told us, "Of course, safety was a vital consideration in the period, but as the technology of warfare at sea was pushing ahead quite fast, there were vulnerable areas of danger on board that had not been addressed.

"For example, the system of opening and closing the gun port lids on the main deck was operated by men pulling ropes on the upper deck, rather than, as in later times, by the main deck gunners themselves, as can be seen on HMS Victory." This would have meant that communication would have been difficult, sight may have been impaired as the gun port lid operators were further from the equipment they were dealing with, and any problems would take longer to fix. Considering the prevalence of the slow closing of the gun ports as a cause in the ship's sinking, the operation of lids by men on the main deck was a simple innovation that came far too late for Mary Rose.



George Carew was the admiral in charge of Mary Rose when it sank





## Secrets of the Mary Rose

**A**nother cause for concern was the use of what were effectively 'trap doors' located around the ship's deck, inviting disaster as the men went about their daily business. Dr Marsden, who has spent significant time with the wreck's remains, made the point that "...the hatches along the middle of each deck had no gratings, but simply wooden covers. This meant that when a hatch was left open for access, in the dim light below a man might not notice the hole in the deck and could fall and break a bone." It might seem an obvious hazard, particularly by today's highly regulated health-and-safety standards, but in the 16th century, it was par for the course.

However, things were soon to change. "There were other problems, but shortly after Mary Rose (which was a carrack) sank, a new type of warship design was introduced - the galleon. This solved many of the problems," Dr Marsden told us. The galleon improved upon the carrack in many ways - carracks were wide and unwieldy to steer by comparison, while galleons were narrower and longer, which contributed towards making their handling much smoother. Carracks were also most often designed with 'castles' at, or even overhanging, the bow and stern of the ship, which were raised areas above the deck and were used for work or combat. Galleons, on the other hand, are flush-decked, with any castles located further into the deck area, allowing for a longer, triangular stern, making them more aerodynamic and easy to steer.

As Mary Rose came just before a watershed change for the design of seaships, it is, for this and many reasons, incredibly useful for archaeological purposes. It is almost unique in its level of preservation and in the fact that it was raised from the seabed in 1982, and has been diligently preserved ever since. Its close proximity to the English shore and its impressive levels of underwater preservation make it perhaps our most comprehensive insight into Tudor life, and life at sea, in the 16th century.



Line engraving of the action off Portsmouth during the Battle of the Solent, c.1545



The salvage of the Mary Rose was a truly momentous occasion



A collection of domestic artefacts recovered from the Mary Rose

## 'HATCH', THE DOG ON DECK

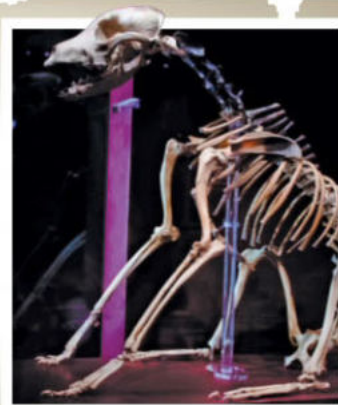
The prevalence of rats on a Tudor ship called for a domesticated animal to keep the numbers in check. While it may traditionally be thought of as a cat's job, Mary Rose, and other ships, employed a dog. We know this as the remains of the animal, nicknamed 'Hatch', were found with the ship. Rats are often too big for cats to catch and kill, and those aboard ships were notoriously fierce, making dogs a far more suitable choice. To add to this, Pope Innocent VIII had declared cats unholy in 1484, as a result of their reputation as complicit companions for

witches, which contributed to their being considered 'unlucky'. This opinion died out in England some 200 years later.

Analysis revealed the dog was male and an early form of terrier - though breeds as we know them now would not have existed in the same way at this time. He was between 18 months and two years old, and had a brown coat. He was by some way the youngest member of the crew (though some of the remains were identified as being 13 years old).

To determine these details about the ship's canine, DNA was taken from one

of Hatch's teeth and analysed by experts from the University of Portsmouth, the Royal Zoological Society of Scotland, the Royal Institute of Technology, Sweden, King's College London Dental Institute, Durham University and the Mary Rose Trust. They also discovered that Hatch had suffered from a hereditary disease called hyperuricosuria, a defect that causes kidney and bladder stones. It was previously thought to be the result of inbreeding in modern breeds, but this may be evidence of its prevalence before the intensive breeding of dogs.







**"One of the most significant finds on the wreck was a collection of 137 complete longbows and thousands of arrows"**

**W**hile there is plenty of mystery surrounding the ship itself, it has also helped demystify a great many aspects of the period for historians. As all of the men aboard died on the same day, for the same reason, it provides a rare snapshot of a particular set of people (in this case, a particular profession) at a specific time. Their dental remains have also been incredibly useful for creating a fuller picture of what people ate at the time - one set even had traces of seeds that allowed analysts a specific view into what one man ate on the very day that he died.

Inspecting the remains to this degree may seem somewhat intrusive, disturbing the earthly remains of hundreds of the men who sank with their ship and likely expected to decompose at the bottom of the sea for eternity. But as with most archaeological endeavours, the results

arguably outweigh any ethical doubts. 92 of the skeletons found were almost complete, giving unprecedented insight into the physique of seamen of this time. And the analysis hasn't slowed by any means in the two decades following the raising of the wreck: researchers continue to look into the blood groups, DNA information and the bone characteristics of the remains today. In doing so, they have identified the remains of the ship's archers, through identifying a particular bone condition, members of the gun crew have been identified by ossification (new bone, grown later in life) as a result of heavy work, and the purser, characterised by the chest of gold and silver coins he was trapped in his cabin with when the ship went down.

Dr Marsden understands well the significance of the archaeological findings on Mary Rose and told us, "The whole collection gives us a unique view of

life on board one of the largest ships of the early permanent Royal Navy." But which of the finds does he think is the most illuminating?

His choice highlights a particularly fascinating conundrum in identifying the remains of a specific person aboard the doomed vessel: "If you really push me to find one item more exciting than the rest, it is a group of silk buttons found with a skeleton in the collapsed sterncastle. Only noblemen were allowed by law to wear silk costumes, so it seems likely that the remains of a nobleman were found." The proximity of the buttons to the remains almost entirely marks them out as belonging to each other, and so it would indicate that the skeleton is that of one of the only men aboard that we can actually name today.

"Only two are historically recorded as being on board: Sir George Carew and Sir Roger Grenville," Dr Marsden told us. "Maybe a DNA study will in future tell us exactly who he was - as was done to identify King Richard III."

One of the most significant finds on the wreck was a collection of 137 complete longbows and thousands of arrows, the first such examples to be found intact, offering military historians a startling insight into the importance of longbows and archers in warfare at the time. Analysis of bones revealed that some of the men had developed a bone condition called os acromiale, which affects the shoulders and is still found in modern professional archers, so the remains displaying this condition can fairly certainly be identified as archers on the ship.

In their quest to further understand the use of longbows aboard Mary Rose, scientists and historians (and the well-known English actor Robert Hardy, as the country's most experienced longbow expert) performed many tests on some of the longbows that were found preserved - testing their flexibility and force, to breaking point in some cases. With such a large number of unprecedented exhibits, they were able to fully test the capabilities of this Tudor weapon without too much concern for breaking a specimen in the name of research, and found that the weapons had draw weights of up to an incredible 82 kilograms.

It is this sort of discovery - of which there have been so many since the ship was raised - which makes Mary Rose such a fantastic historical paradox. Never has a shipwreck answered as many questions about the period it sailed in as Mary Rose, nor has any shipwreck left quite so many mysteries unsolved. While it may not have been much comfort to the men who died, seemingly without real cause and perhaps at the mercy of a gust of wind, the passage of time has made their deaths remarkable indeed. Without them, we might have a very different picture of the lives of 16th-century seamen, and Tudor life as a whole.



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# How to make... GARUM

**CLASSIC ROMAN CONDIMENT**  
ITALY, 753 BCE – 500

## Ingredients

- Fatty fish (such as anchovies or sardines) and their guts and eggs
- Dried herbs: dill, coriander, fennel, celery, mint, oregano
- Salt

**T**his condiment has been dubbed the Roman ketchup, not because it's made of tomatoes but because they put it on pretty much everything. Garum is a fermented fish sauce, and every port in the Mediterranean had its own way of making this condiment using various ingredients of fish, salt and herbs. Pompeii and the Amalfi Coast were particularly famous producers.

There were two kinds: 'garum' that was made from fish innards and guts, and 'liquamen', which was made from the whole fish. The condiment was a luxury, "an expensive present" wrote the Roman poet Martial. The production of garum was so smelly that it was confined to the outskirts of the city, but great factories were dedicated to the cause, using large earthenware pots to store the essential export sauce.

## METHOD

- 01** Begin by chopping up the fish into small pieces and then mix with the fish innards and eggs (this recipe is a mixture of garum and liquamen – to be really authentic you can use one or the other).
- 02** Mix your herbs with quantities to taste. Every Roman place made its garum slightly differently so here's your chance to get creative with flavour. Add your herb mixture to the fish and beat well.
- 03** Pour this into a large earthenware pot – if you don't have a set of Roman garum cookware, a heat-resistant pot of some sort will do just fine.
- 04** Fill your pot, alternately layering the fish and then covering it with salt.
- 05** Now it's time to wait. Sit the mixture in the hot sun for about six weeks, stirring occasionally. This is where the fermentation occurs. If you're not lucky enough to have access to the Mediterranean sun, look to step 9 for a garum cheat recipe.
- 06** The mixture will ferment and reduce, eventually becoming a thick liquid. Then it's time to strain. The Romans used baskets with fine holes, hanging the fish concoction up and letting gravity do the work.
- 07** Place a jar or bottle under your basket or strainer to collect the garum as it drips through.
- 08** Enjoy your sauce! Use in cooking or over salads – or anything you want to add a rich umami, salty flavour to.
- 09** For a modern cheat: boil one litre of grape juice so that it reduces to around one-tenth of its volume, then stir two tablespoons of anchovy paste into the mix and season with a pinch of oregano. It's not made the authentic way, but it still tastes like the height of sophisticated Roman cuisine.



# REVIEWS

All About History on the books, TV shows and  
films causing a stir in the history world

## AMERICAN REVOLUTIONS A CONTINENTAL HISTORY, 1750-1804

An alternative look at the struggle for supremacy over American soil

**Author** Alan Taylor **Publisher** WW Norton & Co **Price** £24 **Released** Out now

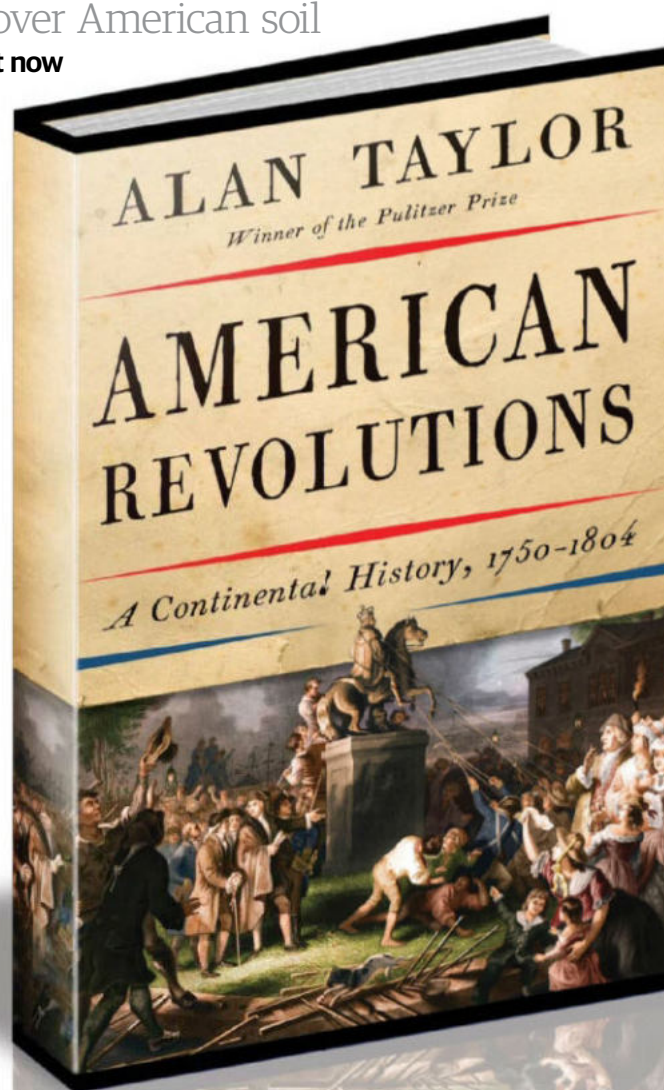
As the hectoring rhetoric during the recent US election reminded us, the USA is a patchwork of ethnic diversity. The thing is, it's been that way for over 300 years. Ever since its indigenous population was first forced from its lands by white European settlers and the black African slaves they dragged with them into the New World melting pot. It's this inconvenient truth that lies at the heart of Alan Taylor's new book about the origins and aftermath of the American Revolution - or what he more accurately calls the American Revolutions.

The events that led to America's violent split from Imperial European rule are usually remembered as a struggle between wealthy (albeit disenfranchised) white colonialists and Europe's ruling elite. Taylor's excellent book, however, explores an alternative narrative. One that examines the role played by other groups and internecine rivalries during one of history's greatest political upheavals.

This is where the 'revolutions' bit of the book's title comes in. Because there were tell-tale tremors as well as juddering aftershocks right across North America during the same period. Mini-quakes that reveal Washington's war against the Redcoats was only part of a bigger shake-up in the region. Uprisings in Spanish colonies in the 1780s and slave rebellions in French ones a decade later are examples of this. Indeed, the 1804 reference in the title is a nod to the establishment of another independent republic in nearby Haiti at the start of the 19th century.

By pulling the camera back, Taylor wants to get more context in view, to debunk the theme-park version of the War of Independence so beloved of flag-waving populists. Instead, he wants to get us closer to the ugly truth: this was a violent and bitter fight to the death that was never a clear battle between 'us' and 'them'. Indeed, America was significantly split at the time with much of the fighting having a distinctly civil war feel to it. Around 25,000 Americans were killed in the struggle for independence, with the liberation-seeking Patriots coming down against their Loyalist cousins (around a fifth of the population) with frighteningly oppressive zeal. Such ironies are exposed throughout Taylor's meticulously researched book. Southern Patriots, for example, blamed Britain for slavery while simultaneously insisting on their right to maintain their property (ie, their slaves.)

To paraphrase the Declaration of Independence, all men might have been created equal, but as Taylor explains, few men (and even fewer women) would find equality in America's post-revolutionary order. The subsequent drive west was described by Thomas Jefferson as an expanding "empire of liberty." In the event, though, it proved anything but. The white settlers who led that charge did so of their own volition. The black settlers they hauled after them did so in shackles, while the indigenous people they displaced were exterminated. This book is a fascinating and timely reminder of the truth behind the USA's troubled and bloody birth.



"Taylor wants to get more context in view, to debunk the theme-park version of the War of Independence"



# LUFTWAFFE IN COLOUR: THE VICTORY YEARS, 1939-1942

The rise and rise of Germany's legendary air force

**Authors** Christophe Cony, Jean-Louis Roba **Publisher** Casemate UK

**Price** £19.99 **Released** Out now

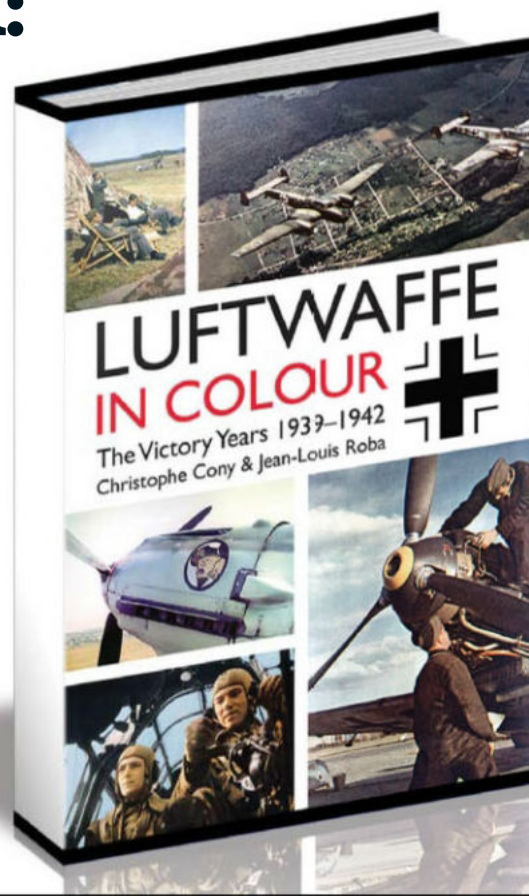
There's no shortage of colourised images from World War II. Some are good, transporting us to those dark days of world history, others are over-saturated and cartoonish, diminishing the raw realism of the unadulterated photograph on which they are based. It's sometimes easy to forget that genuine colour images from the period do exist. *Luftwaffe In Colour* collects 300 such pictures from magazines and private collections that together tell the story of the evolution of one of the world's most feared air forces from its pre-war incarnation as a training organisation to the height of its success during the middle years of the conflict.

While the focus is rightly on the photographs, it's the authors' attention to the smallest of details - from tell-tale battle damage and quick-fix repairs to the continually developing camouflage patterns - coupled with knowledge of the fate and achievements of individual aircraft outside

that captured moment, that serves to give each their own character and history, every aircraft a hero or villain in the tale of the Luftwaffe's rise to glory. The concise captions expand perfectly upon the images without distracting from them, helping to tell the story of the escalating conflict as experienced by its pilots and engineers, from the thrill of earning their kill markings to the ignominy of crashing during takeoff.

*Luftwaffe In Colour* is a book for those that know their Bf 109Es from their Bf 110Cs - a pictorial journey through aviation history crafted by passionate aviation historians for their fellow enthusiasts and packed with detail.

That said, it's far from inaccessible, and while a little light research might help demystify the frequent abbreviations and tech-speak, such reading around the subject should be encouraged, adding value as it does to an already engrossing and rich historical account.



## VICEROY'S HOUSE

A tale of love and loss set against the partition of India

**Certificate** 12A **Director** Gurinder Chadha **Cast** Hugh Bonneville, Gillian Anderson, Michael Gambon, Manish Dyal **Released** 3 March 2017

Historical films say as much about the times in which they were made as the times they depict. Gurinder Chadha's *Viceroy's House*, detailing the months leading to the partition of India in August 1947 and (briefly) the humanitarian crisis it produced, is part of a current wave of films and television shows clogging our screens invested in portraying a *Downton Abbey* vision of England. A time when everybody knew their place and class relations were firmly rigid, *Downton Abbey* Britain is endemic throughout our culture at the minute. Nostalgia and myth are potent forms, after all. In Chadha's film, however, this retrograde fad is used somewhat opportunistically, to give the material melodramatic shape and mainstream audience appeal, rather than anything overtly culturally conservative or ghoulish.

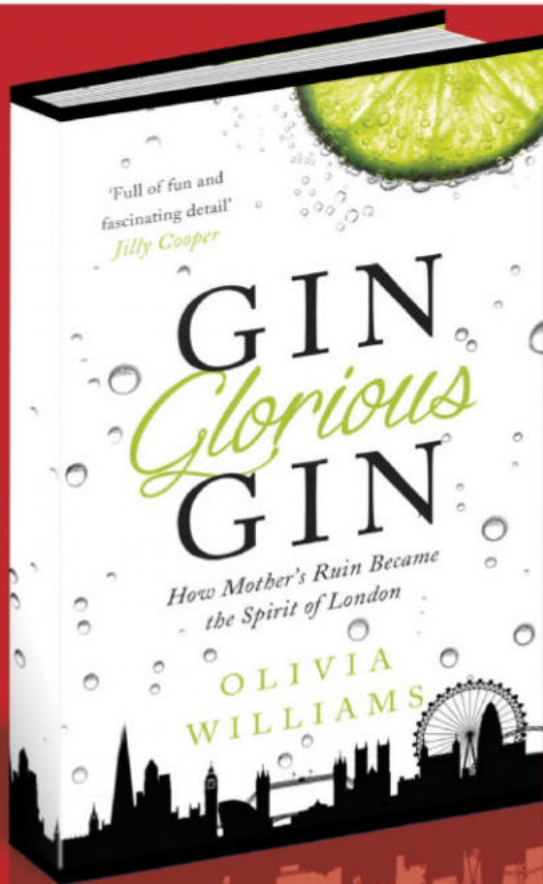
The screenplay is strongest when exploring the mire of identity politics, in-fighting and shady British dealings. The portrayal of Lord Mountbatten (Hugh Bonneville) - the last

viceroy of India - is far too kind, presenting him as a man ultimately duped by elements of government with an eye on protecting trade and oil routes. Wedged into this canvas of chaos and political manoeuvring between soon-departing Brit overlords, Muslim, Hindu and Sikh representatives is a cheesy love story between two servants working in Mountbatten's opulent gaff. Aalia (Huma Qureshi) and Jeet (Manish Dyal) are star-crossed lovers forced apart by religious affiliation and the grander drama at play. Cutting between these two very different narratives - worlds even - doesn't quite gel. Its ambition is to be both *Gandhi* (1982) and *Titanic* (1997). While it fails at both, it's far from abject or a terrible film.

*Viceroy's House* is at heart a tragedy about the politics of hate and division. Its message is strong and relevant to the world today, but it's the delivery of an epic melodrama set against the backdrop of a country in existential crisis that is a mixed offering.







## GIN GLORIOUS GIN

The history of the drink is also a cultural history of London

**Author** Olivia Williams **Publisher** Headline **Price** £8.99 **Released** Out now

**T**here's a lot to love about this history of London, viewed through the bottom of a glass of gin. Author Olivia Williams follows the liquor's journey "from the slums to the Savoy", but begins on a positive note, reflecting on the modern 'ginaissance' and its origins in 16th-century Holland, when it was known as 'genever' (apparently we've since butchered the name). Incidentally, the phrase 'Dutch courage' is thought to have originated from the Thirty Years' War, when British soldiers did as the Dutch did and took a swig of the drink before battle - just one of the fascinating facts this book is swimming with.

Of course, the gin craze wasn't always about trendy bars and cocktails - notes on which can also be found in this book - it is a drink with an unfortunate, much darker and more sobering history.

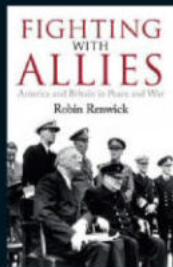
The author takes the reader by the hand and guides them through the sozzled, slum-ridden underbelly of the Georgian city, where women gave birth to alcohol-dependent babies. Its infamous reputation as 'mother's ruin' is tackled head-on in the chapter 'Drunk for a penny, dead drunk for two pence' - the ominous slogan from William Hogarth's engraving *Gin Lane*.

It is a wonder that the liquor ever managed to fall into favour again, but as some amusing adverts for the drink from the 1920s claimed, gin was the beverage of choice for aristocrats and society ladies alike - a million worlds away from those broken and poverty-stricken consumers of the 18th century. Such newspaper clippings are included within the book, along with poems, quotes and anecdotes that help to make *Gin Glorious Gin* a thoroughly enjoyable read.

## HISTORY WAR RECOMMENDS...

### Fighting With Allies: America And Britain In Peace And War

**Author:** Robin Renwick **Price:** £25  
**Publisher:** Biteback Publishing



Robin Renwick was Britain's ambassador to the United States from 1991-95 and so has a unique insight into their 'special relationship'. This book looks into the formation of that relationship

and considers the many strains and crises it has had to endure over the years. Renwick's work is strongest when he is reporting on events that he himself was a part of. By offering personal insights on such matters, he is able to offer a new perspective and a fresh interpretation of familiar tales, making this book, in its best chapters at least, truly captivating stuff.

## THEIR FINEST

Lone Scherfig's WWII-set comedy is an absolute delight

**Certificate** TBC **Director** Lone Scherfig **Cast** Gemma Arterton, Bill Nighy, Sam Claflin, Richard E Grant **Released** Early 2017

**L**ondon, 1940. The retreat at Dunkirk and daily terrors wrought by the Blitz have wounded the national psyche. The government's Ministry of Information is intent on making a picture that will rally the Yanks into action and "win the war." When Welsh script supervisor Catrin (Gemma Arterton) hears of a newspaper article about twin sisters rescuing soldiers from Dunkirk in their father's fishing vessel, she's promoted to screenwriter - to pen "slop" (women's dialogue) - and joins the production.

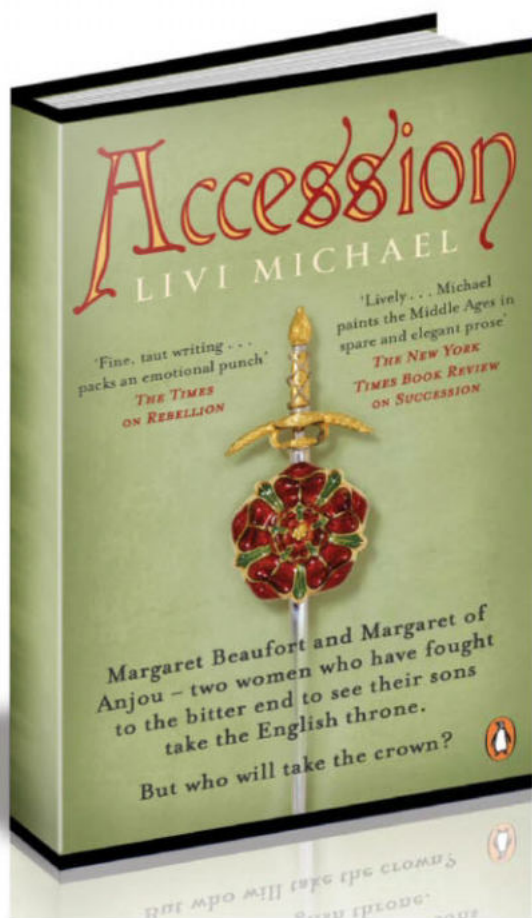
Danish director Lone Scherfig, adapting *Their Finest Hour And A Half* (2009) by Lisa Evans, underpins the comedy-drama with a strong and vital message about equality and female empowerment. Catrin has to fight to make her creative voice heard among patronising male co-workers, but also understands career chances have come about because the menfolk are preoccupied with the Nazis. She sees it as not only a national duty to craft a picture to move the masses, but a duty to herself as a woman and writer to take what is a golden opportunity in an industry with huge gender imbalance.

*Their Finest* investigates - rather than blindly reinforces - British myths of fair play and meritocracy.

Scherfig's vision of wartime Britain, too, is far from rose-tinted. Among the cast of recognisable faces - Richard E Grant, Helen McCrory, Eddie Marsan - Arterton and co-star Bill Nighy shine brightest, as Ambrose Hilliard (Nighy), a chauvinistic thespian who is fed up with the war and British food rationing, and Catrin's relationship journeys from initial frosty interactions to a genuinely touching friendship.







## ACCESSION

The Battle of Bosworth decides the fate of a nation and a mother

**Author** Livi Michael **Publisher** Penguin **Price** £8.99 **Released** Out now

**L**ivi Michael's powerful new work, *Accession*, marks the end of her trilogy on the Wars of the Roses. The story that began with *Succession* and continued with *Rebellion* ends here, but if you haven't read the other books in the series, don't fret, there's still much here to enjoy.

The story opens where *Rebellion* closed, with Edward IV on the throne and the defeated Henry Tudor fleeing his captors for sanctuary on the continent. From this heady beginning, the reader is plunged headlong into the power plays of the 15th-century battle for the English crown. Full of familiar characters from history, the focus is very much on Margaret Beaufort, Henry Tudor's mother, and a woman of immense ambition and political ability.

In Michael's capable hands, these well-known figures spring vibrantly and memorably from the page. She breathes fresh life into not only the familiar names and faces that star in the story,

but also into some very well-trodden events in English history.

Covering as it does the final years of the Wars of the Roses, the book packs a huge amount into its canvas, including an intriguing treatment of the mystery of the 'Princes in the Tower' and a truly unforgettable, bone-jarring recreation of the Battle of Bosworth.

The fictional narrative woven by Michael is enhanced and complemented by extensive use of archive sources, in which contemporary voices are occasionally quoted to narrate the story, lending an authentic tone that threads throughout the book.

Regardless of whether you are familiar with Michael's previous work and the two earlier books in the trilogy or are a newcomer to her world, this is an evocative novel that lends a fresh and compelling new perspective on the tumultuous time in English history that was the Wars of the Roses.

## GREAT BRITISH ECCENTRICS

A thought-provoking celebration of those that see things differently

**Author** SD Tucker **Publisher** Amberley **Price** £9.99 **Released** Out now

**A**n inclination towards eccentricity has, for a long time, been considered something quintessentially British. Whether it's a fair perception or not, and how we became such an apparent bastion of peculiarity is open to debate, but that's not what *Great British Eccentrics* is about. Instead, SD Tucker's book is a celebratory who's who of Britain's more colourful, peculiar and outlandish characters.

Take a peek inside and you'll meet anarchic aristocrats, archetypal cat-ladies, "visionary" inventors and occultists, as well as more familiar names like Winston Churchill (recreational wall-builder and dreamer of weapons of mass destruction), Lord Byron (keeper of domesticated bears) and Evelyn Waugh (outspoken bearer of grudges).

Tucker's concise biographies paint Britain as a breeding ground for those that feel most comfortable when diverging from the norm, a true land of the free where people

are able (and encouraged) to interact with the world however they like without fear of censure. It does seem that possessing a certain social status also helps the general public to turn a blind eye, though.

There is, however, a dark edge to this book. The line between harmless eccentricity and mental illness can be blurred, and the author himself doesn't always seem convinced that there is a distinction, often using evocative words like "insane" or "mentally disturbed" to describe his case studies. It's difficult to view some of the more tragic tales in Tucker's book as the actions of someone who is merely a little quirky. Many of the stories here aren't of this nature, portraying interesting people that simply elected to look at life from a different angle, but those that are cast a shadow over Tucker's writing, raising the question of whether it's appropriate to present the antics of someone that may have genuinely suffered from mental health issues for the entertainment of others.





# HISTORY ANSWERS

Send your questions to [questions@historyanswers.co.uk](mailto:questions@historyanswers.co.uk)



By the end of Emperor Caracalla's reign, the denarius had been debased to 51 per cent silver

## Did Ancient Rome suffer from inflation?

**Ruth Howard**

Most definitely. In the 1st century, the most important coin in the Roman Empire was the silver denarius, and a soldier would earn roughly one denarius per day. But the more the empire grew, the more coins it needed to pay its army, and there weren't enough silver mines to keep up. The easiest solution was to make the existing silver supply go further by diluting the silver content of each coin. Over the course of successive emperors, the denarius went from 95 per cent pure silver to less than 5 per cent.

By the time of Gallienus in 260, the coins were made of copper with just a thin film of silver covering them. This fooled nobody, so people demanded more coins for their services. Soldiers' wages more than tripled between 50 CE and 210, and the prices of some goods increased by 1,000 per cent. The Crisis of the Third Century, a time of great civil unrest, led to a collapse of internal trade as communities reverted to bartering. This inability to control inflation was ultimately one of the causes of the disintegration of the empire.

### GALLIENUS

Nationality: Roman  
Born-died: c.218-268

#### Brief Bio

The 41st emperor of the Roman Empire, Gallienus ruled Rome at a very difficult time, when the empire was too big to be managed effectively. He was the first emperor to introduce rapid response units to the Roman army, and the first to officially recognise and tolerate the Christian Church.

## Which city was the last to be captured by siege?

**Eric Simmons**

British Army officer Charles Gordon, who fought at the 1855 Siege of Sevastopol, wrote that it was, "The last of the old sieges." But he spoke too soon, because 30 years later, he was killed at the Siege of Khartoum. A siege is generally defined as when enemy forces surround a town or building with the aim to force those inside to surrender. By that definition, the Siege of Mosul in Iraq, which is still ongoing at the time of writing, would qualify. But modern sieges have been completely changed by the capabilities of air strikes. One of the last examples of a successful siege action that didn't receive some kind of air support is the Siege of Port Arthur in the Russo-Japanese war of 1904-05. This port in Chinese Manchuria was, at the time, a Russian naval base. It was captured by the Japanese after five months of shelling and fighting, with more than 50,000 casualties on each side.



Japanese 11-inch artillery firing on Port Arthur. Each shell weighed 250kg

## This day in history 5 January

1066

**Succession crisis sparked**  
Edward the Confessor, the last English king of the house of Wessex, dies after a series of strokes. The resulting quarrel over the succession leads to the Norman conquest ten months later.



1463

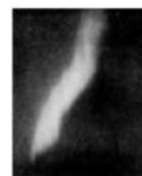
**Villon exiled**  
Francois Villon, France's most famous Medieval poet and a notorious rogue, is banished from Paris for the third and final time after a lifetime of burglary and duelling. He isn't seen or heard from again.

1709

**London freezes**  
Thousands die across Europe during the coldest winter for 500 years. On this night, the temperature in London is measured at -12 degrees Celsius. Modern climate models still can't explain the severity of this winter.

1892

**Northern Lights captured**  
German physicist Martin Brendel takes the first photograph of the Northern Lights. It is in black and white, and very blurry, due to the low sensitivity of photographic plates at the time.





## What were universities like in the middle ages?

**William Barton**

The earliest universities began when scholars gathered together in a foreign city to protect themselves from local persecutions. These international communities hired experts to teach them, and these groups of students and teachers became universities. Medieval universities usually taught four main subjects: theology, law, medicine and 'everything else', which were referred to as 'the Arts'. Religious students were allowed by the pope to continue to receive whatever stipend they were normally paid by their home parish, but paying for their education still wasn't easy. Collections of letters written by Medieval students show that the most common reason for writing was to request more money.



Medieval universities began as international communities

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## Who invented the Ouija Board?

**Olga Matthews**

'Talking boards' that purportedly allowed communication with the spirit world date back to the Song Dynasty of 12th-century China. By 1886, spiritualists in Ohio in the USA were using their own versions in public séances.

Then in 1891, businessman Charles Kennard and four other investors, including patent attorney Elijah Bond, registered their design for a 'talking board' and began selling the modern Ouija Board as a parlour game. The game was eventually sold to Parker Brothers in 1966, which is now owned by Hasbro.



The patent description for the original Ouija Board was intentionally vague as to how the device actually worked



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1895

### Dreyfus imprisoned

French artillery officer Alfred Dreyfus is convicted of spying and sentenced to life imprisonment on Devil's Island. Five years later he is acquitted, but the 'Dreyfus Affair' deeply divides public opinion in France.



1914

### Ford company grows

The Ford Motor Company doubles workers' pay to \$5 a day and shortens shifts. Profits will go on to double from \$30 million to \$60 million in the next two years.



1919

### Beginnings of the Nazi Party

The German Workers' Party is founded in Munich by Anton Drexler. Nine months later, Adolf Hitler will become the 55th member, and in 1920 it will be renamed the National Socialist German Workers Party - the Nazis.

1944

### British news in the US

The *Daily Mail* becomes the first transoceanic newspaper. A digest of the London edition is transmitted to New York by telegraph and reprinted there. It isn't a commercial success and is shelved in 1947.



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Did Hollywood kill the king? The tragic story of the rock 'n' roll icon



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# HISTORY HOLLYWOOD

## Fact versus fiction on the silver screen



### THE BOOK THIEF

**Director:** Brian Percival **Starring:** Sophie Nélisse, Geoffrey Rush, Emily Watson **Country:** USA, Germany **Released:** 2013

Transforming Nazi Germany into an upmarket Christmas advert

**VERDICT** Disagreeable politics are swept under the rug for the sake of the story.

#### WHAT THEY GOT WRONG...

**01** Propaganda posters were common in Nazi Germany and are included in the film, notably in the streets during the book-burning. Some of these would only have been common in wartime, like those shaming ration hoarders, but would not have been used before the war.

**02** The total lack of anti-Semitism does not reflect the period accurately. Jewish people had been made scapegoats for Germany's loss in WWI, and in the late 1930s, the Nazis held power, meaning anti-Jewish sentiment would have been rife throughout the nation.

**03** The mayor's wife catches Liesel stealing books, and then grants her access to her personal library. It seems unlikely that the wife of a high-ranking official would risk her and her husband's livelihood on one curious girl, especially considering the political climate.

**04** Molching, the town in which the film is set, is a fictional location. Although it is described as being geographically close to Munich, the make-believe place allows the makers of the film to gloss over most of the darker aspects of the Nazi regime.

#### WHAT THEY GOT RIGHT...

Portraying the lead character, Liesel, as a member of the Hitler Youth is spot-on. For young children, especially in the late 1930s, membership of such an organisation would have been near compulsory, as at this time children were being groomed from a young age to join the Nazi Party.







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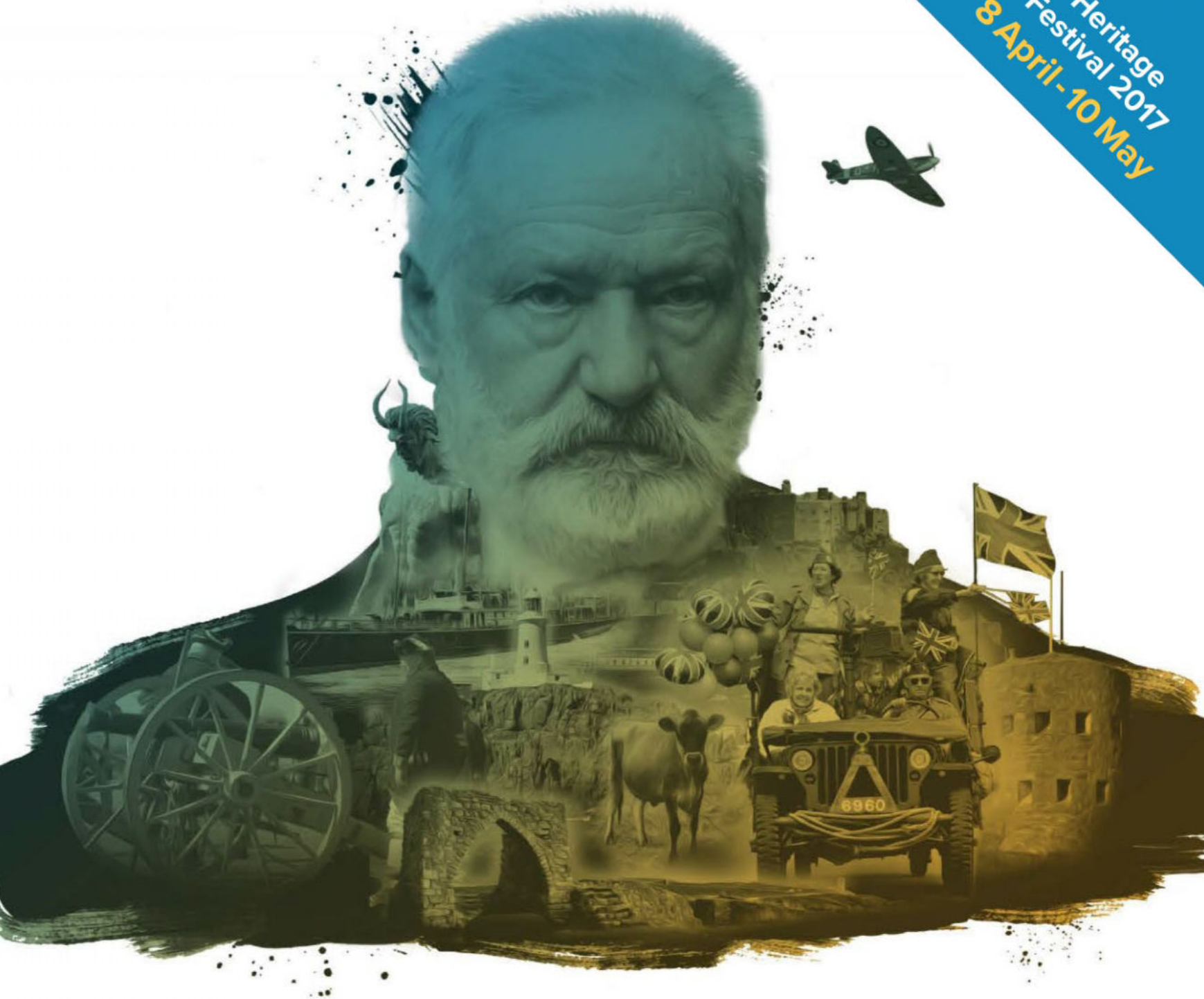
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